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ABSTRACT

The manual is designed to clarify and document procedures now in effect at the Information Center of the Council for Exceptional Children, to assist in training new personnel, and to provide a model for other information centers. Types of information requests received are differentiated, followed by a profile of the typical users of the information center. Then explained are the various responses and communication mode used. Information Center holdings, library maintenance, and reference and referral resources are described, followed by procedures pertaining to identification of and response to information requests. The first appendix contains 17 sample forms used in the center; the second appendix consists of 17 form letters used; the third appendix is the Users Manual ERIC/DIALOG Online Retrieval System as revised in August of 1971; and the fourth appendix lists detailed procedures for miscellaneous activities not directly covered earlier. (For two other manuals used in the Information Center, see also EC 042 177-8.) (CB)

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CEC Information Center on Exceptional Children

An Educational Resources Information Center

A Product of the
CEC Information Center on Exceptional Children
(An ERIC Clearinghouse)

The Council for Exceptional Children
1411 South Jefferson Davis Highway, Suite 900
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INFORMATION SERVICES MANUAL:
PROCEDURES OF THE CEC INFORMATION CENTER

MAY, 1972

by

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CEC Information Center

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
OFFICE OF EDUCATION
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PREFACE

The information services staff of the CEC (Council for Exceptional Children) Information Center has prepared this manual in order to clarify and document procedures now in effect at the Center, to assist in training new personnel, and to provide a model for other information centers. All procedures involved in the identification of and response to information requests are described. File holdings, library maintenance, and reference and referral resources are delineated, and forms utilized are described and displayed. A procedural manual for computer operations is also included.

It is hoped that this manual will contribute to the improvement of information gathering and processing procedures so that a prime goal of the CEC Information Center can be efficiently served–that is, the provision of well-organized and rapidly available information concerning exceptional children.

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I. REQUESTS

Five basic types of requests are received by the Information Services staff of the CEC Information Center on Exceptional Children (an ERIC Clearinghouse). Some information requests overlap into two or more of the five types.

A. General Information Request

Information is requested over the broad range of exceptionalities and/or special education and thus requires a general answer stating the basic types of exceptionality and the education or physical care needed for each.

B. General Specific Information Request

Information is requested on a specific handicap and requires a simple definition of the handicap, some incidence figures, facilities and educational programs.

C. Referral or Reference

Information sought comes under the scope of some other agency or organization better prepared to answer the request in terms of material available. In these cases the appropriate referral is made or the source of the requested material is located in the appropriate reference tool.

D. Facilities and Programs

Patrons may seek information on facilities (educational, medical, residential, recreational, or occupational) and programs (usually educational) for a specific disability. Responses may be found in the Center's *Exceptional Child Bibliography Series, Exceptional Child Education Abstracts* (the Center's quarterly abstract journal) or catalogs and directories of various educational, professional and commercial agencies and organizations.

E. Specific Detailed Information Requests

Such requests require specific information relating to a particular handicap. A computer search or a hand search of the Information Center's data bank will attempt to locate the appropriate material.

II. USERS

Although patrons may fall into two or more of the classifications listed below, requests are usually submitted to the Information Center by the following eight general categories.

A. Professionals and Researchers

Persons who represent a specific field or organization that serves the handicapped, or who are doing research in the field of exceptional child education.

B. Administrators and Supervisors

Persons connected with specific educational programs for the handicapped, or with programs that serve exceptional children as one aspect of their total program.

C. Teachers, Instructors, and Librarians

Such persons at any level who are involved with exceptional child education.

D. Private Constultant Firms and Commercial or Educational Agencies

Persons representing agencies involved with services or products for exceptional children.

E. Students

Persons enrolled in education programs at any level.

F. Parents and Relatives

Persons who have an exceptional child in the family or who are personally involved with an exceptional child.

G. Federal, State and Local Government Employees

Government employees involved either directly or indirectly with exceptional children.

III. RESPONSES

The CEC-ERIC Information Center on Exceptional Children responds to requests in one or more of the following ways:

A. Referrals

(For a description, see Requests, Part C, and Procedures, Part G.)

B. Reprints

(For a description, see Holdings, Part H and Appendix B.)

C. Previously Prepared Packets (Preprepared Packets) and Form Letters

Responses to requests of a recurring nature. (For a description, see Procedures, Parts H and N and Appendix B.)

D. Assembled Packets

Prepared upon demand according to the discretion of the person answering the request, and may contain a mixture of pamphlets, reprints, bibliographies, abstracts, form letters and referrals. (For a description, see Procedures, Part H.)

E. Bibliographies

Contain approximately 100 abstracts each and are used to answer general and specific requests. (For a description, see Procedures, Part L and Appendix B.)

F. Computer Searches

Computer searches are preformed for those information requests not adequately answered by packets, form letters, bibliographies or referrals. (For a description of the searches and the computer system used, see Procedures, Part D and Appendix B.)

IV. COMMUNICATION MODE

The majority of information requests received are in the form of letters, postcards or purchase orders. However, the number of information requests received through telephone calls and personal visits is increasing. A small percentage of the total number of requests received are the result of CEC conventions or other conventions at which CEC participates. These requests are either submitted directly to personnel at the CEC Information Center's Exhibit Booth or are directed to the Information Center later as a result of contact with personnel at the booth.

V. INFORMATION CENTER HOLDINGS

A. Exceptional Child Education Abstracts

Exceptional Child Education Abstracts (ECEA), published by The Council for Exceptional Children, is a quarterly journal containing abstracts stored on the computer file of the CEC Information Center. Designed as a resource for administrators, researchers, teachers, teacher educators, psychologists, and others concerned with gifted and handicapped children, it contains abstracts of journal articles, research reports, curriculum guides, program reports and guidelines, published texts, and parent and professional manuals.

B. Research in Education

Research in Education (RIE), a monthly abstract journal, is prepared by the Educational Resources Information Center (ERIC) to make possible the early identification and acquisition of reports of interest to the educational community. ERIC is a nationwide information network for acquiring, selecting, abstracting, indexing, storing, retrieving, and disseminating the most significant and timely educational research reports. It consists of a coordinating staff in Washington, D.C. and 19 clearinghouses located at universities or with professional organizations across the country. These clearinghouses, each responsible for a particular educational area, are an integral part of the ERIC system. (See Appendix B for a list of Clearinghouses.)*Reprinted from Research in Education*

C. Current Index to Journals in Education

Current Index to Journals in Education (CIJE) provides detailed indexing for articles in over 200 education and education-related journals. CIJE is a cooperative enterprise involving funds provided through a Federal agency, the Office of Education, and its ERIC (Educational Resources Information Center) program; indexing performed by professional specialists at universities and professional organizations; and the publishing expertise of Crowell Collier and Macmillan and its subsidiary, CCM Information Sciences, Inc. CIJE is a monthly companion piece to *Research in Education. Reprinted from Current Index to Journals in Education*

D. **Ready Reference Collection**

The collection contains documents from which material can be drawn quickly and easily. Requests (usually telephone or visitor) that are answered by ready reference material are those requiring a single fact or statement as their answer. Examples of this type of request are the price of publications, incidence figures, telephone numbers, addresses and geographical locations of facilities for the various handicapping conditions.

E. **Searching Reference Collection**

The collection contains documents from which general and specific information of several paragraphs or pages can be obtained. Documents may be used interchangeably for searching reference and ready reference purposes. Information is collected from these documents by hand searches and is typed or xeroxed for dissemination. (See Appendix D for a bibliographical list of the reference collection holdings.)

F. **Vertical File**

(For a description, see Procedures, Part M.)

G. **Book and Document Collection**

The collection contains material that has been acquired or printed by the Information Center and abstracted for inclusion in RIE and/or ECEA. (For a list of books and documents, see volumes of ECEA.)

H. **Journal Collection**

The collection contains journals which have been acquired or printed by the Information Center (Council for Exceptional Children) and indexed for inclusion in CIJE and/or abstracted for ECEA.

I. **Computer Data Base Collection**

The collection consists of Information Center holdings which have been processed for inclusion in ECEA. Abstracts are retrievable via the DIALOG and/or BIRS computer systems. (For a description of how material is retrieved via DIALOG and BIRS, see Procedures, Part D.)

J. **Reprint Collection**

The collection consists of the major articles that have appeared in *Exceptional Children, TEACHING Exceptional Children,* and *Education and Training of the Mentally Retarded,* three CEC journal publications. After each new issue appears, fifty copies of the major articles are reprinted and supplied to the Information Center by the CEC Publications Unit. The reprints are stored according to journal title, year, volume number and page number.

VI. PROCEDURES

A. Request Process Form (RPF)

The RPF is used for recording data on each request received by the Information Center so that this data can be keypunched for computer storage and retrieval. The form is designed so that the fields are arranged vertically, thus simplifying keypunching. Data are recorded in red ink using designated codes. (See Appendix D for each field of information and a discussion of RPF recording procedures.)

B. Letter Sort and Route

Correspondence is sent to the Information Center from the mail room. It is opened, stamped with date received, and attached along with its envelope (for return address purposes) to an RPF. (See Appendix A, Request Process Form.) The correspondence is then routed to Information Services for sorting. Requests which require a detailed computer search are routed to the "computer in-process box" to be assigned descriptors for searching on the DIALOG or BIRS systems. (See Procedures, Part D, DIALOG and BIRS systems.)

Requests of a routine nature, such as specific requests for bibliographies or preprepared packets, are answered by an Information Specialist (IS) or are sent directly to a secretary who answers the request. Requests which require hand searches, referrals, ready reference materials, or other special attention are answered by the IS.

The IS reads the request and, using codes described in the description of the RPF, writes in the lower left hand corner of the correspondence the materials to be sent in response to that request. The IS composes letters or memos and gathers reprints or abstracts which she clips to the letter and the RPF. (The same routine is followed for requests which require a computer search.) When the RPF is completed and the necessary material gathered, the package of material is routed to the secretary who gathers any other materials listed on the lower left hand corner of the correspondence, types a memo or letter if applicable (some requests, i.e., bibliographies and preprepared packets, do not require letters or memos). The secretary also includes a hanger (See Appendix A) with the IS's signature, and an evaluation card to be filled out by the person receiving the material (see Procedures, Part S, evaluation cards and Appendix B). She then types a mailing label for the package of material and sends the complete package to the mail room. (For postage rates see Procedures, Part Q, postage costs.)

When a request is submitted by telephone or by a visitor to the Center, a user service record (USR) is filled out (user's name, address and the request) and is stapled to an RPF. The request then follows the same routing procedure as described above for correspondence.

When a package of material has been completed and mailed to the user, the secretary files the original correspondence and a carbon copy of any accompanying letter or memo used in response to the request in the reading file. (See Procedures Part O, reading file.)

C. Hand Search

Some requests may require material that cannot be retrieved by the computer. For example, a patron may have cited only part of a title, the wrong author, made some other mistake in recording the bibliographical data on the document, or requested material from the wrong agency. In such a case, a hand search is made of the existing material (indexes, abstract journals, directories, vertical file, indexes to bound journals, tables of contents of loose journals, author, title and publisher printout indexes to ECEA, RIE, CIJE, price lists from other agencies), or telephone calls are made to pertinent agencies to locate the information needed.

Some requests which are not sufficiently complex to justify a computer search can be filled by hand searching indexes to volumes of ECEA, utilizing *coordinate indexing* techniques. When this type of search is performed, the page that contains the necessary abstract is xeroxed from ECEA, the appropriate abstract(s) on that page indicated with a rubber stamp, and the xeroxed page sent to the user.

The following is a simple definition of coordinate indexing. (For a complete explanation, see *Abstracting and Indexing Manual–Procedures of the CEC Information Center.*)

Coordinate indexing is a technique which enables the searcher to choose indexing terms (descriptors or identifiers) such as *Educable Mentally Handicapped* and *Curriculum Guides* and to compare the abstract numbers listed under each term. When the same abstract number appears under both indexing terms, the searcher has found a document concerning curriculum for the educable mentally handicapped. The same technique can also be used for any number of indexing terms which the user wishes to search simultaneously. Coordinate indexing thus enables the searcher to find documents on very specific subjects.

D. BIRS and DIALOG Computer Systems

The primary storage and maintenance system for the CEC Information Center's data base is built around the Basic Information and Retrieval System (BIRS) and associated special purpose programs. The BIRS system provides necessary support for ECEA file processing, in-house indexing, and batch processing of requests received by the Information Center. Batched in groups of a least twenty questions, such requests are submitted in computer language to the Data Processing Unit of CEC. Normal turn-around time for processing of these runs is twenty-four hours.

As a supplement to the BIRS batch processing system, the Information Center utilizes the DIALOG program package which was developed by the Lockheed Missiles and Space Company. DIALOG is an interactive information retrieval system which permits the user to perform searches via a video keyboard display terminal which is connected to a computer containing the file of information to be searched. There are presently four files available for searching: ERIC/CIJE, Current Projects, Field Reader, and ECEA. The CEC Information Center only searches the ERIC/CIJE and ECEA files. (See Appendix C, *User's Manual ERIC/DIALOG Online Retrieval System,* for detailed instructions on operation and capabilities of DIALOG.)

The DIALOG system is operated on a timesharing basis for two hours every morning(8:30-10:30). A total of four terminal users search on the DIALOG file during this time period. (See Appendix D for name and address listing.)

Computer hardware for the system is located at the Boeing Company, McLean, Virginia. Local equipment and computer problems are handled directly by them. (See Appendix D for names and telephone listings.)

A DIALOG search is conducted when information requests cannot be handled by the Information Center through some other mode of response. Appropriate requests are examined by an Information Specialist (IS) who assigns descriptors from the *Thesaurus for Exceptional Child Education* and the *ERIC Thesaurus.* When pertinent abstracts are found a printout is made and delivered the following day via a courier service.

For record-keeping purposes, the basic search information sheets included with the returned printouts are retained as file copies. The abstract printouts are enclosed with cover letter of explanation and sent to the user. A carbon copy of each run is recorded and filed under its appropriate subject heading. These duplicate printouts are later xeroxed as needed to supplement and/or answer other information requests received. The ECEA files are updated approximately four times per year.

An on-line terminal log sheet is maintained for Central ERIC. This log sheet records date, operator, requester's name and organization, inquiry, output, time and malfunctions for each question searched. This log is sent once a month to the Director, Division of Information Resources, U.S. Department of Health, Education and Welfare, Office of Education, Washington, D. C. 20202. (See Appendix B.)

E. Patrons

A User Service Record (USR) is filled out for each patron as he arrives at the CEC Information Center. (See Procedures Part B, letter sort and route, and Appendix B.) The Information Specialist (IS) first determines what material will be helpful to the patron. The next five or ten minutes she spends explaining the functions of the Information Center and introducing the patron to ECEA. After explaining the coordinate indexing technique used to find pertinent abstracts, the IS furnishes the patron with appropriate preprepared bibliographies and leaves him to work on his own. It is desirable to wait until the patron has had some experience with ECEA before he attempts to locate material on the shelves himself. The IS suggests that the patron write down the EC number, author, title, journal name and volume for each document he wishes to examine. When this is completed, the IS explains the numbering system and procedures for finding documents on the shelves or in the microfiche collection. Since the Information Center has a non-circulating book collection, the material must be used in the library. However, pages in books or entire journal articles are often xeroxed for patrons.

F. Library Services

The operation of the library has a two-fold purpose: *maintenance of the physical collection* and the *provision of reader services.* The Information Center library collection consists of bound volumes and books, loose journals and microfiche. A cataloging clerk shelves all volumes and journals soon after they have been cataloged and accessioned. The Information Services staff is responsible for reshelving books and regularly checking the shelves to see that documents are in numerical order. A book inventory is taken periodically by the Information Services staff to determine which books are missing, misnumbered, or misshelved. Missing books are recorded for future reference and possible reordering.

Loose journals are shelved alphabetically by title in the journal section of the library. Recent copies of *Exceptional Children, TEACHING Exceptional Children,* and *Exceptional Child Education Abstracts* in addition to examination copies of recent CEC publications are arranged for display in the library. Microfiche are filed by ED or EC number. (See Procedures Part J, microfiche collection.)

The second purpose of the library is the provision of reader services. Because volumes are arranged by number, not subject, the shelves are not easy to browse. Patrons may require assistance in learning to search for materials, in using the indexes, in locating correct EC numbers, and in operating the microfiche reader/printer. This assistance is provided by the Information Services staff who also assist patrons in determining the best approaches to their research topics and provide any other assistance which may be required.

G. Referrals

Because the documents contained in the CEC Information Center collection cover the broad spectrum of exceptionality, it is sometimes desirable to refer requests for specific information on a particular disability to another agency. (For purposes of simplification, the word "agency" is used here to include organizations, clearinghouses, institutions, etc.) The referral system serves two basic purposes. First, most agencies are involved with a single handicapping condition and therefore have a wide variety of material pertaining to that particular condition. Secondly, referrals serve as a valuable link in the coordination of services among various agencies. In some cases it is possible to work out agreements between agencies whereby each agency will be responsible for answering all requests in its particular subject area.

Referrals are accomplished by telephoning another agency or by forwarding the original correspondence along with an explanatory note to the agency.

H. Packet Assembly

The CEC Information Center uses two basic kinds of packets: those assembled for a specific request and those that are preprepared and always contain the same materials.

When assembling packets for a specific request, the clerk gathers the items which have been indicated on the lower left hand corner of the piece of correspondence being answered. Information materials are arranged numerically on supply shelves according to series numbers which have been assigned to them. (See Appendix B for a list of materials and their respective code numbers.)

Preprepared packets consist of one or two pamphlets and a form letter explaining the sources of additional information. (See Appendix B, samples of preprepared packets.)

I. Quarterly Report

Central ERIC requires a quarterly report from each of its clearinghouses. The report is compiled and submitted at the end of March (1st quarter), June (2nd quarter), September (3rd quarter), and December (4th quarter). The Information Center is responsible for Sections D and F of the report. *Section D, Services Report,* includes the total number of individual requests submitted during the three month period, the types of responses made, and a general breakdown of the users served. (See Appendix B for this breakdown.) *Section F, Information Analysis Data,* includes the total number of responses made to each question on the evaluation card. (See Procedures, Part S and Appendix A.)

J. Microfiche Collection

The collection consists of two parts–the complete ERIC microfiche collection and the microfiche copies of journal articles which have been abstracted for announcement in ECEA. The ERIC collection (approximately 56,000 documents, at present) is filed by ED number (ERIC Document number), and is housed in a designated room of the Information Center along with a microfiche reader/printer which is available for patron and in-house use. The reader/printer may be used to read/print any portion of a microfiched document. The microfiche collection of ECEA journal articles is also housed in this room. Journal microfiche are filed by EC number (Information Center document number) and are likewise available for in-house and patron perusal.

K. Circulation

The CEC Information Center collection is not available for public circulation. Journals and bound volumes are available, however, for circulation in-house. When a volume or journal is borrowed by a staff member, the borrower is asked to write his name, telephone extension, and the date on the library card found in the book pocket of the document. The card is then filed in a circulation file by EC number. The Information Center maintains separate circulation files for bound volumes and for journals. A monthly circulation record is kept for statistical purposes.

L. Bibliographies

The *Exceptional Child Bibliography Series* was instituted by the CEC Information Center in November, 1969 to answer the need for selected bibliographies in certain areas of exceptional child education. The original series of 26 bibliographies has been updated and now consists of 52 special topic bibliographies. With few exceptions, each bibliography has its own author and subject indexes to facilitate the search for appropriate documents. The bibliographies contain abstracts selected from *Exceptional Child Education Abstracts.* A bibliography may consist of a maximum of 100 abstracts selected on the basis of availability, currency, information value, author's reputation, and classical content. The Series is updated according to demonstrated need. At given intervals a computer search is conducted of the information files via DIALOG or the BIRS system to determine whether a specific bibliography topic has increased by 25% of the number of abstracts presently available on the topic. If a topic has increased at least 25%, the bibliography on that topic is revised.

Records are kept of how often a given bibliography is reprinted. If the request rate for a bibliography is low, it is not updated. New bibliographies are assembled if records show that a significantly large number of people are asking for material on a particular subject not presently covered by a bibliography.

M. Vertical File

The Information Center maintains a collection of material on pertinent topics which is used to supplement the regular material used to answer information requests. This material is usually a type not considered appropriate for processing for the regular data base. Most vertical files consist of newspaper or journal clippings; xeroxed portions of articles found in journals, books, pamphlets, etc.; or small pamphlets, brochures, and advertisements. The material is filed by subject in manila folders and stored in a filing cabinet.

N. Forms and Form Letters

The use of forms and form letters expedites the request-answering process of the CEC Information Center. Many information requests are of a recurring nature and as such may be most efficiently answered via forms or form letters. Forms and form letters are developed as these types of requests become established. When a form or form letter becomes outdated it is discarded and replaced by new material. Forms such as memos, hangers, and mailing labels may need to be ordered from a commercial printer. In most cases, however, forms and form letters can be prepared by Information Center staff and printed by CEC's Materials Handling Unit (on CEC letterhead, if desired). The checklist and careers letters are examples. (See Appendixes A and B for forms and form letters.)

O. Reading File

The Information Center maintains a reading file of all correspondence transactions. When a request is completed, the orginal correspondence and carbon copies of any letter or memo that was mailed in answer to the request are placed on file. The material is kept in manila folders labeled by month, year, and exact completion day of the material contained therein. At the end of each year, files over one year old are discarded.

P. ERIC ExCerpt

Four times each year the CEC Information Center's newsletter, *ERIC ExCerpt,* is printed in CEC's journal, *Exceptional Children.* This three or four page article gives pertinent information about the ERIC-related activities of the CEC Information Center. After the article has appeared in *Exceptional Children,* reprints are made and sent to the several thousand persons on the *ERIC ExCerpt* mailing list.

The *ERIC ExCerpt* mailing list is stored on IBM keypunch cards. A card is punched for each patron who desires his name to appear on the mailing list. Three weeks prior to the mailing date for *ERIC ExCerpt,* the cards are processed and an alphabetical listing of names and addresses is produced. These are checked for errors or duplications and the necessary corrections are made. Mailing labels are printed and delivered, along with the reprint copies of *ERIC ExCerpt,* to the Materials Handling Unit for mailing.

Q. Postage

Correspondence is mailed *first class* unless it is of packet size. Packet-size material is sent *third* or *fourth class,* depending on how much it weighs. If it is necessary to rush a packet to a patron, a note indicating *first class* or *air mail* must accompany the packet to the mail room.

R. Evaluation Cards

The Information Center has developed three evaluation cards to aid in determining the effectiveness of its services. One evaluation card is included in each packet of material sent out. Each card concerns one of the three kinds of services provided: *bibliographies, services,* or *computer services.* (See Appendix A.) The yellow computer service card and the green services card are worded the same; however, a separate color is used for computer material so that this particular service can be singled out for evaluative purposes. The number of cards sent and the number returned are recorded each month. At the end of each quarter, this information is compiled and included in the quarterly report. (See Procedures Part I, quarterly report.)

S. Numbering System

In order to use the library facilities effectively, a patron needs to understand variations in the document numbering system. Documents included in Volumes 1 and 2 of ECEA were accessioned and shelved under numbers *EC 000 001* through *EC 006 000.* When abstracts of these documents were announced in ECEA, they were assigned *Abstract numbers* which were separate from the *accession numbers.* Beginning with ECEA, Vol. 3, No. 1, it was decided to begin assigning *accession numbers* (EC numbers) to documents and journal articles which would also represent *Abstract numbers* by which the documents would be announced in ECEA and also by which they would be shelved in the library. Therefore, each document was assigned a six-digit number, the first two digits representing the volume number of ECEA in which the abstract would appear, and the last four digits representing the abstract number. For example, the number EC 030 645 represents abstract number 645 in Volume 3, and the document is shelved under the number EC 030 645. With the initiation of this new numbering system it was necessary to go back and renumber abstracts

appearing in Volumes 1 and 2 in order to maintain consistency within the system. Thus abstracts in Volume 1 were assigned numbers in the series beginning with *EC 010 001* and abstracts in Volume 2 were assigned numbers in the series beginning with *EC 020 001.* It was possible to make this change on the computer file of abstracts, but since Volumes 1 and 2 of ECEA had already been printed, they still reflect the old dual numbering system and documents shelved in the library for Volumes 1 and 2 still retain the old *EC 000 001-EC 006 000* number series. When a patron uses the bibliography series or author, title and publisher indexes located in the library rather than Volumes 1 and 2 of ECEA to locate a document announced in those two volumes, he must use a *conversion table* to find the number under which the document was shelved (i.e., EC 000 001-EC 006 000). This conversion table is printed in double columns with the *EC 010* and *EC 020* (new numbers) in numerical order. The corresponding old number is printed beside each new number.

Another peculiarity of numbering which the patron needs to understand concerns the numbering of journal articles indexed for CIJE. When the Information Center began indexing journal articles for CIJE it was thought desirable to assign a series of accession numbers which would distinguish those journals indexed for CIJE from those indexed and abstracted for ECEA only. Therefore a series of numbers beginning with *EC 500 001* was assigned to journal articles indexed for CIJE. These references were included in a reference section which preceded the abstract portion of each issue of ECEA.

Later, it was decided to abstract some of these references for inclusion in the regular abstract section of ECEA. In order to do this it was necessary to assign another accession number in addition to the series *EC 500* number already assigned to the CIJE references. Therefore, numbers in the series *EC 000 001-EC 006 000* were assigned to some of these references and they were abstracted and printed in ECEA. Thus, some journal articles were assigned a series *EC 500* number *and* a series *EC 000 001* number. In some cases, a journal entry would appear as an *EC 500* number (CIJE) in the reference section and as an *EC 000 001* number in the abstract section of ECEA. It was later decided to discontinue the dual numbering of CIJE journal articles and maintain only the *EC 500* series for announcement both in the reference section and in the abstract section of ECEA.

Journal articles appearing in Volumes 1 and 2 of ECEA have been microfilmed and filed under the series *EC 000 001* number if such a number had been assigned. All others in those two volumes have been microfilmed and filed under the *EC 500* series number. Patrons wishing to locate journal articles appearing in Volumes 1 or 2 of ECEA should search for them on a title index.

APPENDIX A

RECORDS (FORMS)

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Visitor Registration	17

1411 South Jefferson Davis Highway
Suite 900 Jefferson Plaza Building
Arlington, Virginia 22202
Phone 703-521-8820

CEC

Information Center
on
Exceptional
Children

The enclosed material is provided in response to your information request —

An ERIC Clearinghouse
Member IMC/RMC Network

NOTE-O-GRAM®

© THE DRAWING BOARD • BOX 505 • DALLAS, TEXAS 75221

THE COUNCIL FOR EXCEPTIONAL CHILDREN
JEFFERSON PLAZA, SUITE 900 • 1411 S. JEFFERSON DAVIS HIGHWAY • ARLINGTON, VIRGINIA 22202
PHONE 703 521-8820

MESSAGE

TO

DATE

—

BY

Form N-N73 © The Drawing Board, Inc., Box 505, Dallas, Texas 75221

INSTRUCTIONS TO SENDER:

1. KEEP YELLOW COPY. 2. SEND WHITE AND PINK COPIES INTACT.

REPLY

DATE

SIGNED

INSTRUCTIONS TO RECEIVER:

1. WRITE REPLY. 2. DETACH STUB, KEEP PINK COPY, RETURN WHITE COPY TO SENDER.

EXAMPLE 2

CEC-ERIC INFORMATION CENTER SERVICES EVALUATION

YOU ARE IMPORTANT in helping us serve you more effectively. For us to be able to do this, would you please respond to the following question in evaluating the enclosed material.

1. Did our response answer your request? YES_____ NO_____
2. If not, how could it have been improved?_____
   _____
3. Regarding the comprehensiveness of our response, was it:
   too narrow_____, too broad_____, appropriate_____?
4. Would you be willing to pay for this service in the future? YES___NO____
5. Additional comments_____
   _____
   _____
6. Position you hold: Teacher (please circle one): Pre., Ele., Sec., Coll.,
   Administrator_____, Student_____, Parent_____, Researcher_____,
   Other (please specify)_____
7. How did you find out about the Information Center? CEC Publication_____,
   Convention_____, Other People_____, IMC/RMC Center_____,
   Other (please specify)_____

Thank you.

CEC INFORMATION CENTER BIBLIOGRAPHY EVALUATION

So we can better serve you, please respond to the following questions:

1. Have you had a chance to use the bibliographies? YES____ NO____
2. Did you find relevant abstracts? YES____ NO____
3. Did they satisfy your current needs? YES____ NO____
   Comment:_____
4. Circle all appropriate answers.

The abstracts were:	clear	current	meaningful.
	confusing	out-of-date	irrelevant.
The indexes were:	clear	helpful.	
	confusing	useless.	

5. Did you order any of the documents? YES____ NO____
6. What changes or additions would you like to see?_____
   _____
   _____.
7. Position you hold: Teacher, circle(pre., ele., sec., coll.)_____
   Administrator_____Student_____Researcher_____Other_____
8. Would you be willing to pay for the bibliographies in the future?
   YES____ NO____

2m 4172

EXAMPLE 4

USER SERVICE RECORD - PHONE REQUEST
(Please complete and return to BT)

Name _____ Date _____

Address & Tel. No. (if needed)

Staff Person _____

Place on mailing list _____

Staff Time Expended _____

Affiliation

Nature of Request and Information Provided

User Evaluation or Suggestions

Followup Needed (i.e., materials requested)

CEC Information Center EXAMPLE 5

Information Processing Unit

Request Processing Form

*$DES

@Accession No._____

@Date Received_____

@Source_____ if other than a state, circle one: Canada, Central America, South America, Asia, Africa, Europe, Australia, Territory

@Nature of contact_____

@User Category_____

@Handicaps_____

@Categories_____

@Prepared Responses_____

_____

_____

_____

@Individualized response: Circle one: LETTER - MEMO - REPRINT - SEARCH DUP - OTHER.

_____

@Terms searched_____

_____

@ABSTracts=_____ @TIME=_____

@Referral_____

_____

@Mailing list no._____

@Volume of requests_____

@Finish date_____

EXAMPLE 6

From:

CEC/ERIC Information Center
on Exceptional Children
1411 South Jefferson Davis Highway
Jefferson Plaza Suite 900
Arlington, Virginia 22202

TO:

CONTENTS:

EXAMPLE 7

CEC Information Center on Exceptional Children

An ERIC Clearinghouse

SERVICES REPORT

SECTION D

Quarter, 197

	Month	Month	Month	Quar. Total	Year to Date Total
1. Total responses made by the Clearinghouse during report period:					
a. Phone					
b. Letter					
c. Visits					
d. Other					
TOTAL					
2. Types of Responses					
a. Reference - nonsubject					
b. Reference - subject					
c. Spot bibliographies & literature searches					
d. General questions on ERIC					
e. Other (including mailing list)					
TOTAL					
3. General Breakdown of Users					
a. Educational practitioners					
Teachers					
Teacher educators					
Supervisors & Consultants					
Psychologists & Social Workers					
b. Educational decision makers					
c. Research & development specialists					
d. Information professionals & dissemination specialists					
e. Professional organizations					
f. Students					
g. Other (Federal Gov't. & Public)					
Parents					
Unidentified					
TOTAL					

EXAMPLE 8

_____ Month _____ Year

CEC Information Center
on Exceptional Children

CIRCULATION RECORD

DATE	TYPES OF MATERIAL			
	EC Documents	Journals	Other	Totals

MONTH

Reporting Terminal:

ON-LINE TERMINAL LOG

Request Number	Date	Operator	Requestor Position (Name)	Requestor Affiliation (Organization)	Questions, Problem or Topic of Search	OUTPUT # Prints Format	TIME Total Elapsed	TIME Vis/Dem.	MALFUNCTIONS Code	MALFUNCTIONS Time	MALFUNCTIONS Comments

PRINT CODE

1 - ED#
2 - Citation
4 - Abstract
5 - Cit. & Abstr.

MALFUNCTION CODE

C - Computer
CL - Communication
T - Terminal

EXAMPLE 9

DATE DUE

AUTHOR

TITLE

DATE LOANED	BORROWER'S NAME

CEC Information Center

THE COUNCIL FOR EXCEPTIONAL CHILDREN

DEMCO

EXAMPLE 11

CEC-ERIC IC

Information Processing Unit

Numbering Schemes-Publications

SERIES 300-OTHER AGENCY PUBLICATIONS

SERIES 100-CEC PUBLICATIONS, BROCHURES, PAMPHLETS

SERIES 200-249, REPRINTS
210-EC
220-ETMR
230-TEC
240-EX
245-NEWSLETTERS

SERIES 250-299, COPIES FROM JOURNALS
250-EC
260-ETMR
270-TEC
280-EX
290-NEWSLETTERS
295-ECEA

SERIES 500-INFORMATION CENTER PUBLICATIONS, EXCLUDING BIBLIOGRAPHIES

SERIES 600-700-EXCEPTIONAL CHILD BIBLIOGRAPHY SERIES

SERIES 100, CEC PUBLICATIONS

108 - CAREERS IN SPECIAL EDUCATION
104 - CEC-DIVISIONS BROCHURE
105 - CEC IN CANADA BROCHURE
103 - CEC PROMOTIONAL BROCHURE
109 - CEC PUBLICATIONS LIST
114 - DO WITHOUT UNTHINKABLE
110 - DOLE REPRINT-FEDERAL DIRECTORY
112 - ENVIRONMENT PACKET
106 - PERSONNEL RECRUITMENT BROCHURE
101 - SAMPLE EC AND ORDER FORM
102 - SAMPLE ETMR AND ORDER FORM
111 - SFICEC, ABESON
113 - TEACHER EDUCATION DIRECTORY
115 - A TIME TO PLAN, A TIME TO DO
107 - UPDATE, ALL ISSUES

SERIES 200-249, CEC REPRINTS

210 - BLESSING REPRINT-USE OF TEACHER AIDES IN SPECIAL EDUCATION
220 - ETMR REPRINTS, ALL ISSUES
240 - ERIC EXCERPT REPRINTS, ALL ISSUES

SERIES 250-299, CEC COPIES

SERIES 300, OTHER AGENCY PUBLICATIONS

325 - AAPHER FLYER
326 - ACLD NEWSLETTERS
343 - AUTISTIC CHILDREN
387 - BLINDNESS, ABILITY NOT DISABILITY
339 - CASSETTE TAPE FLYER
348 - CEREBRAL PALSY
374 - CEREBRAL PALSY MORE HOPE THAN EVER
349 - THE CHILD WHO IS HARD OF HEARING
356 - THE CHILD WITH A CLEFT PALATE
355 - THE CHILD WITH A SPEECH PROBLEM
358 - THE CHILD WITH EPILEPSY
342 - CHILDREN APART-AUTISM
382 - THE CHILD WHO IS MENTALLY RETARDED
320 - CIJE BROCHURE
341 - CLOSER LOOK
363 - CREATIVE LIFE FOR YOUR CHILDREN
357 - DEAF BLIND CHILD
366 - DIALOG USERS MANUAL
361 - DRUGS AND YOU
386 - EPILEPSY, TODAY'S ENCOURAGING OUTLOOK
320 - ERIC PRODUCTS LIST
320 - ERIC-YOUR GUIDE TO CURRENT EDUCATIONAL INFORMATION
359 - FEEDING THE CHILD WITH A HANDICAP
384 - FIVE CAREERS
345 - FOLLOW THROUGH
373 - HEAD START BOOKLET
336 - HELLO WORLD
371 - HELP FOR YOUR TROUBLED CHILD
369 - HELPING THE SLOW LEARNER
337 - HOW RETARDED CHILDREN CAN BE HELPED
320 - HOW TO USE ERIC
308 - INFORMATION CENTER FOR HANDICAPPED CHILDREN BROCHURE
313 - INFORMATION FOR ATTORNEYS
311 - INFORMATION FOR DOCTORS
314 - INFORMATION FOR JUDGES
312 - INFORMATION FOR MENTAL HEALTH SPECIALISTS
315 - INFORMATION FOR TEACHERS
381 - IN SERVICE TO THE MENTALLY RETARDED
301 - IS YOUR CHILD BLIND
383 - LEARNING DISORDERS, HYPERKINESIS AND THE USE OF DRUGS
353 - LEARNING TO TALK
376 - THE LOST CHILD
332 - MINIMAL BRAIN DAMAGE, LD FLYER
347 - MONGOLISM

375 - THE MOST IMPORTANT THING IN THE WORLD
305 - MR '69,70, OR ANY YEAR
351 - MUSCULAR DYSTROPHY
382 - NATIONAL CENTER FOR INFO ON CAREERS IN EDUCATION
319 - NATIONAL CENTER FOR INFORMATION ON CAREERS IN EDUCATION-BROCHURE
388 - NEW CAREERS
385 - NEW HOPE FOR THE RETARDED CHILD
334 - OUR DAUGHTER IS BLIND
344 - PREP KITS
365 - R & D CENTERS
383 - REHABILITATION LITERATURE REPRINT
307 - RESEARCH IN EDUCATION CUMULATIVE INDEX BROCHURE
380 - RESIDENTIAL SERVICES FOR THE MENTALLY RETARDED: AN ACTION POLICY PROPOSAL
372 - THE RETARDED CHILD GETS READY FOR SCHOOL
379 - RHEUMATIC FEVER
320 - RIE BROCHURE
323 - SCHIZOPHRENIA: CURRENT APPROACHES TO A BAFFLING PROBLEM
321 - SCHOLARSHIP BOOKLET
339 - THE SEARCH FOR THE EDUCATIONAL SYSTEM THAT DOESN'T EXIST/FLYER
368 - SERIOUS MENTAL ILLNESS
364 - SERVICES FOR CRIPPLED CHILDREN
389 - SPECIAL EDUCATION CAREERS
306 - SPECIAL EDUCATION-WHAT IT MEANS, WHAT IT OFFERS
352 - SPINA BIFIDA
335 - TEACHING DEAF CHILDREN
346 - TEACHING HANDICAPPED CHILDREN
333 - THE HANDICAPPED IN THE REGULAR CLASSROOM-ASHCROFT
309 - THE PROBLEM OF MENTAL RETARDATION
301 - THE SIX HOUR RETARDED CHILD
378 - SOMETHING FOR THE SPECIAL CHILD
302 - THESE, TOO, MUST BE EQUAL-EMPLOYMENT OF THE MENTALLY RETARDED
384 - TOWARD MENTAL HEALTH
322 - TO YOUR FUTURE WITH LOVE
370 - A VERY SPECIAL CHILD
360 - THE VISUALLY HANDICAPPED CHILD AT HOME AND SCHOOL
340 - WHO IS THE VISUALLY HANDICAPPED CHILD
377 - YOUR CHILD HAS A LEARNING DISABILITY
301 - YOUR CHILD IS BLIND
367 - YOUR CHILD MAY BE A GIFTED CHILD
338 - YOUR CHILDS EMOTIONAL HEALTH
354 - YOUR GIFTED CHILD

SERIES 500, INFORMATION CENTER PUBLICATIONS

513 - BIBLIOGRAPHY CHECKLIST
515 - BIBLIOGRAPHY: EARLY CHILDHOOD EDUCATION
518 - BIBLIOGRAPHY LETTER (BE SPECIFIC)
517 - BIBLIOGRAPHY LETTER (REPRODUCTION)

502 - CAREERS-CAREERS IN SPECIAL EDUCATION, AGENCIES GUIDE, SCHOLARSHIP BOOKLET
525 - CEC INFO CENTER AN ERIC CLEARINGHOUSE
508 - CEC INFORMATION CENTER BOOKLET-THE NOW WAY TO KNOW
520 - CENTER DEVELOPED PRODUCTS LIST
501 - CHECKLIST-ERIC CAN HELP, ECEA FLYER, ERIC EXCERPT, CEC PUB LIST, CIJE FLYER
519 - COMPUTER LETTER
514 - CONFERENCE PAPERS FORM LETTER
524 - DENO, SPECIAL EDUCATION DELIVERY
510 - DIMENSIONS (LIMITED COPIES)
506 - DIRECTORIES LETTER-SERVICES AND FACILITIES BIBLIOGRAPHY, AGENCIES GUIDE
509 - ECEA BROCHURE
513 - EXCEPTIONAL CHILD BIBLIOGRAPHY LIST
523 - GALLAGHER, THE EDUCATION SYSTEM WHICH DOESN'T EXIST
521 - GLASSMAN BIBLIOGRAPHY
503 - IMC-TEC LETTER-IMC REPRINT, ERIC CAN HELP, ECEA FLYER, CEC PUB LIST, TEC F
504 - JOB LETTER-RECRUITMENT BULLETIN
522 - KALIEDOSCOPE
507 - PARENT LETTER-HELPING BIBLIOGRAPHY, AGENCIES GUIDE
508 - SAMPLE TEC AND ORDER FORM
505 - TEACHER AIDE LETTER-BLESSING REPRINT, CAREERS IN EDUCATION
516 - TEACHERS AIDE PACKET
511 - THESAURUS FOR EXCEPTIONAL CHILD EDUCATION
512 - THESAURUS FOR SPECIAL EDUCATION INSTRUCTIONAL MATERIALS

SERIES 600, BIBLIOGRAPHY SERIES

ERIC DOCUMENT REPRODUCTION SERVICE
LEASCO INFORMATION PRODUCTS, INC.

P.O. Drawer O, Bethesda, Md. 20014

Example 12

ERIC REPORTS

ON-DEMAND ORDER BLANK

BILL TO: _____

_____

_____

_____

SHIP TO: _____

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_____

_____

PURCHASE ORDER NO. _____

REPORTS TO BE ORDERED

ITEM	ED Number	Number of Copies MF	Number of Copies HC	PRICE (see reverse)	TOTAL PRICE
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

☐ TAX NUMBER _____

☐ DEPOSIT ACCT. NUMBER _____

☐ CHARGE (OVER $10.00) _____

☐ CHECK NUMBER _____

SUB-TOTAL	
TAX	
TOTAL	

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3. Include number of copies (1, 2, 3, etc.) to be ordered in appropriate space. Use MF space for microfiche copies, use HC space for hard copy (paper). *Check RIE for availability of document in MF and HC.*

4. Include price from the rate schedule. (Refer to price schedule on back.) Prices are also published in current issues of RIE.

5. Some ED numbers represent a series of titles, and will be billed by title, not ED number. A list of applicable ED numbers is available.

6. Extend number of copies and price for total price for each entry.

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EXAMPLE 13

THE COUNCIL FOR EXCEPTIONAL CHILDREN
NEW MEMBERSHIP APPLICATION

NAME _____
FIRST INITIAL LAST

ADDRESS _____

_____

CITY _____ STATE _____ ZIP _____

TELEPHONE NO. _____ CHAPTER NO. _____

IF THIS IS A RENEWAL PLEASE CHECK BOX ☐

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EXCEPT FOR FOLLOWING STATES:

	Calif.	Florida	Georgia	Maine & Texas	Mich.
Regular	$21.00	$16.50	$15.50	$16.00	$17.00
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MAILING INSTRUCTIONS

PLEASE PRINT OR TYPE

ENCLOSE DUES AND ORIGINAL FORM.

MAIL TO:

The Council for Exceptional Children
1411 South Jefferson Davis Highway
Arlington, Virginia 22202
(703) 521-8820

PLEASE CHECK ONLY ONE BOX IN EACH SECTION BELOW WHICH MOST ACCURATELY PERTAINS TO YOU

POSITION
- ☐ 01 Teacher
- ☐ 02 Student
- ☐ 03 Retired
- ☐ 04 Administrator
- ☐ 05 Supervisor
- ☐ 06 Consultant
- ☐ 07 Principal
- ☐ 08 Therapist
- ☐ 09 Researcher
- ☐ 10 Psychologist
- ☐ 11 Reading Specialist
- ☐ 12 Social Worker
- ☐ 13 Counselor
- ☐ 14 Physician
- ☐ 15 Parent
- ☐ 17 Teacher Educator
- ☐ 19 Other _____ Specify

EMPLOYING AGENT
- ☐ 01 Public School
- ☐ 02 Parochial School
- ☐ 03 Private School
- ☐ 04 Residential School
- ☐ 05 Clinic
- ☐ 06 Hospital
- ☐ 07 Rehabilitation Center
- ☐ 08 State Governmental Agency
- ☐ 09 Federal Govermental Agency
- ☐ 10 College or University
- ☐ 11 Private Local Agency
- ☐ 12 Private State Agency
- ☐ 13 Private National Agency
- ☐ 14 Instructional Materials Center
- ☐ 19 Other _____ Specify

AREA OF INTEREST
- ☐ 01 Gifted
- ☐ 02 Visually Handicapped
- ☐ 03 Hearing Handicapped
- ☐ 04 Speech Handicapped
- ☐ 05 Mentally Retarded
- ☐ 07 Emotionally Handicapped
- ☐ 08 Orthopedically Handicapped
- ☐ 09 Multiply Handicapped
- ☐ 10 Learning Disabled
- ☐ 12 Home Bound or Hospitalized
- ☐ 19 Other _____ Specify

TRAINING
- ☐ 01 2 Years College or Less
- ☐ 02 3 Years College
- ☐ 03 Bachelors Degree
- ☐ 04 Masters Degree
- ☐ 05 6th Year Degree
- ☐ 06 Doctoral Degree
- ☐ 07 Post Doctoral
- ☐ 19 Other _____ Specify

LAST DEGREE COMPLETED _____ Mo. _____ Yr.

STUDENT MEMBERS ONLY
FULLTIME STUDENT
At: _____
_____
_____
_____
_____
(College or University)

DIVISION MEMBERSHIP FORM

PLEASE COMPLETE THIS PORTION OF FORM ONLY IF YOU ARE JOINING A DIVISION OR RENEWING PRESENT DIVISION MEMBERSHIP AND SUBMITTING DIVISION DUES.

PLEASE CHECK APPROPRIATE BOXES
See Reverse Side For Names of Divisions

	DIVISION	Regular Member	Student Member
A	☐ DOPHHH	☐ $5.00	☐ $1.00
*B	☐ CASE	☐ $5.00	
C	☐ CCBD	☐ $6.00	☐ $2.00
D	☐ CEC-MR	☐ $5.00	☐ $2.00
*E	☐ DCCD	☐ $2.00	☐ $1.00

	DIVISION	Regular Member	Student Member
*F	☐ DCLD	☐ $4.00	☐ $2.00
G	☐ DVH	☐ $3.00	☐ $1.00
H	☐ TAG	☐ $5.00	☐ $1.00
I	☐ TED	☐ $2.00	☐ $2.00

CASE, DCCD and DCLD HAVE PROFESSIONAL MEMBERSHIP REQUIREMENTS – SEE REVERSE

REMITTANCE
(DIVISION MEMBERS MUST BE MEMBERS OF CEC)

CEC DUES $ _____

DIVISION DUES $ _____

TOTAL $ _____

TO MEMBERSHIP CHAIRMEN

PLEASE PLACE YOUR CHAPTER NUMBER IN THE SPACE PROVIDED BEFORE DISTRIBUTING FORM TO POTENTIAL MEMBER.

84563

Research in Education

Published by the U.S. Department of Health, Education, and Welfare
Office of Education, Washington, D.C. 20202

Prepared by the National Center for Educational Communication
Educational Resources Information Center (ERIC)

ERIC

EDUCATIONAL RESOURCES INFORMATION CENTER

The Educational Resources Information Center is a national information system dedicated to the progress of education through the dissemination of educational research results and research related materials.

RESEARCH IN EDUCATION is a monthly abstract journal of recently completed educational research reports, descriptions of exemplary programs, and other documents of interest to the educational community. Directed to school administrators, teachers and supervisors, school board members, commercial and industrial organizations, educational researchers, and the public, this journal contains:

- A bibliographic listing and abstracts of current educational documents.
- Subject, author, institutional sources, and other indexes.

RIE publishes separately annual and semi-annual cumulative indexes which may be purchased from the U.S. Government Printing Office.

See back for an RIE Subscription Blank

GPO 922-320

EXAMPLE 14

EXAMPLE 15

CURRENT INDEX TO JOURNALS IN EDUCATION is a monthly index to more than 500 educational periodicals. It is published by the CCM Information Corporation, a subsidiary of Crowell Collier and Macmillan, Inc., in cooperation with the Educational Resources Information Center (ERIC) of the U.S. Office of Education. Approximately 1600 articles are indexed each month. Directed to educational researchers and librarians, CIJE includes:

- references to the most current educational periodical literature available
- brief annotations outlining the scope and substance of most articles indexed
- subject, author, journal contents and main entry indexes
- semiannual and annual cumulations

CURRENT INDEX TO JOURNALS IN EDUCATION

Please enter my subscription as follows:

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☐ Semiannual and Annual	40.00
☐ Monthly, Semiannual and Annual	74.00
☐ 1969 Annual Cumulation	29.50
☐ 1970 Annual Cumulation	29.50
☐ Send more information	

Name .....

Affiliation .....

Address .....

..... Zip .....

IC–102–25M

Example 16

THE NOW WAY TO KNOW . . . ECEA

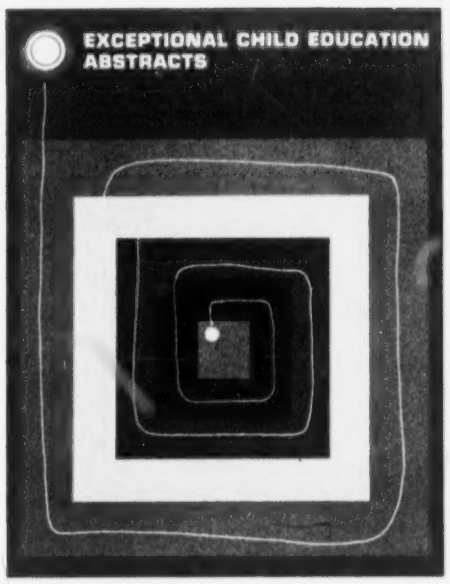
EXCEPTIONAL CHILD EDUCATION ABSTRACTS

Published by

The Council for Exceptional Children

a product of the
CEC Information Center
(CEC-ERIC Clearinghouse)

Exceptional Child Education Abstracts, now in its third year of publication, is published quarterly . . . April, August, November and February.



THE MOST COMPREHENSIVE INFORMATION RESO IN S

PURPOSE

Exceptional Child Education Abstracts is designed to provide its subscribers with comprehensive abstract coverage of important publications in all aspects of the field of special education. *Exceptional Child Education Abstracts* is an indispensable tool for persons working or studying in any field involving the education of the handicapped or gifted . . . librarians, teachers, curriculum supervisors, administrators, students . . . and those engaged in publishing, research and writing of surveys.

COVERAGE

Coverage includes research reports, journal articles, curriculum guides, teachers' activity manuals, administrative surveys and guidelines, and texts for both professionals and beginning students. The publication also includes abstracts of ERIC (Educational Resources in Education) documents on the handicapped and gifted.

MICROFICHE AND HARD COPIES AVAILABLE

All current literature is thoroughly scanned to provide you with continuing and up-to-date information. There is occasional abstracting of significant material from older publications. Many of the publications abstracted in ECEA are available in microfiche or hard copy from the ERIC Document Reproduction Service (EDRS). The ED number needed for ordering, and the number of pages needed to compute cost, are included for each item available in this form.

CUMULATIVE SUBJECT INDEX

The Cumulative, *computer generated*, Subject Index in each issue is a unique feature of ECEA. The Subject Index cumulates annually. This means that Issue No. 2 of a given volume will index Abstracts appearing in Nos. 1, and 2, and Issue No. 3 will index Abstracts in Nos. 1, 2, and 3. Cumulative indexing saves you considerable time and reduces errors in identifying appropriate documents.

IMPROVED NUMBERING SYSTEM

An improved numbering system begins with Volume III. Abstract numbers and EC numbers (accession numbers assigned by ERIC Clearinghouse) are identical. This aids search and retrieval.

ABSTRACTS

ABSTRACT 1

ABSTRACT 2

ABSTRACT 3

ABSTRACT 4

ABSTRACT 5

ABSTRACT 6

Abstracts of Significant Special Education Literature
Research Reports – Curriculum Guides – Journal Articles – Program Surveys

AUTHOR INDEX

Author Index

SUBJECT INDEX

Subject Index
Computer generated index utilizing 15 to 25 descriptors per abstract

SOURCE PUBLICATION
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Partial Listing of Journals Abstracted

Academy of Medicine of New Jersey BULLETIN
Academic Therapy Quarterly
Acta Symbolica
Active Handicapped
Adolescence
American Annals of the Deaf
American Education
American Journal of Art Therapy
American Journal of Mental Deficiency
American Journal of Occupational Therapy
American Journal of Orthopsychiatry
American Psychologist
American Sociological Review
Annual Review of Psychology
Arithmetic Teacher
ASHA (American Speech and Hearing Association Journal)
Audecibel
Audiovisual Communication Review
Audiovisual Instruction
Australian Journal of Mental Retardation
Behavior Therapy
Behavioral Science
British Journal of Physical Education
Bulletin of the National Association of Secondary School Principals
Bureau Memorandum
California Journal of Educational Research
California State Federation CEC Journal
Canada's Mental Health
The Cerebral Palsy Journal
Changing Education
Child and Family
Child Welfare
Childhood Education
Children
Children's House
The Clearinghouse
Compact
Current
The Deaf American
Developmental Psychology
Devereux Schools Forum
Digest of the Mentally Retarded
Education Canada
Education and Culture
Education Digest
Education Panorama
Education and Training of the Mentally Retarded
Education of the Visually Handicapped
Educational Leadership
Educational Media
Educational and Psychological Measurement
Educational Product Report
The Elementary School Journal
Emotionally Handicapped Children Bulletin
Exceptional Children
Focus on Exceptional Children
Genetic Psychology Monographs
The Gifted Child Quarterly
Grade Teacher
Harvard Educational Review
Hearing
Hearing and Speech News
Illinois Schools Journal
Instructor
International Child Welfare Review
International Journal of Neuropsychiatry
International Rehabilitation Review
Journal of Abnormal Psychology
Journal of the American Dance Therapy Association
The Journal of the American Optometric Association
Journal of the Association for the Study of Perception
Journal of Consulting and Clinical Psychology
The Journal of Creative Behavior
Journal of Education
Journal of Educational Psychology
The Journal of Educational Research
The Journal of Experimental Education
The Journal of General Education
The Journal of General Psychology
The Journal of Genetic Psychology
Journal of Health, Physical Education, Recreation
Journal of Health and Social Behavior
Journal of Learning Disabilities
Journal of Marriage and the Family
Journal of Music Therapy
The Journal of Negro Education
The Journal of Nervous and Mental Disease
Journal of Personality
Journal of Personality and Social Psychology
Journal of Projective Techniques and Personality Assessment
The Journal of Psychology
Journal of Reading
Journal of Rehabilitation
Journal of Rehabilitation of the Deaf
Journal of Research and Development in Education
Journal of Research Services
Journal of School Psychology
Journal of Secondary Education
The Journal of Social Issues
The Journal of Social Psychology
Journal of Special Education
Journal of Speech and Hearing Disorders
Journal of Speech and Hearing Research
The Journal of Teacher Education
Light Magazine
Man/Society and Technology
The Mathematics Teacher
Mental Health Digest
Mental Retardation
Mind over Matter
Momentum, Journal of the National Catholic Educational Association
Monday Morning
Music Educators Journal
The National Elementary Principal
Negotiation Research Digest
NEA Research Bulletin
The New Beacon
The New Outlook for the Blind
Notre Dame Journal of Education
Nursing Outlook
Optometric Weekly
Peabody Journal of Education
Pediatrics
Pennsylvania Psychiatric Quarterly
Perceptual Cognitive Development
The Personnel and Guidance Journal
Physical Therapy, Journal of the American Physical Therapy Association
Public Health Reports
Reading Research Quarterly
Reading Teacher
Rehabilitation Literature
Rehabilitation Record
The Rehabilitation Teacher
Research Communications in Chemical Pathology and Pharmacology
Research Index
The Research Quarterly
Review of Educational Research
Safety
Safety Education
Scandanavian Journal of Rehabilitation Medicine
School Libraries
School Management
School Safety
Schizophrenia
The Science and Children
Science Teacher
Sightlines
The Sight-Saving Review
The Slow Learning Child
Social Work
Sociometry
Southern Journal of Educational Research
Special Education
Speech Monographs
The Speech Teacher
Teachers College Record
TEACHING Exceptional Children
Theory into Practice
Therapeutic Recreation Journal
Today's Education
Today's Speech
The Training School Bulletin
Urban Review
The Volta Review
Young Children

EXAMPLE 17

CEC-ERIC Information Center
on Exceptional Children

VISITOR REGISTRATION

NAME _____

AFFILIATION _____

ADDRESS _____

CITY _____ STATE _____

APPENDIX B

FORM LETTERS

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CEC Information Center
on Exceptional Children

EXAMPLE 1

An Educational Resources Information Center

MEMBER OF THE SPECIAL EDUCATION
IMC/RMC NETWORK

In response to your recent request, a computer search of Exceptional Child Education Abstracts (ECEA), and/or ERIC-CIJE files has been conducted. Enclosed is a printout of the abstracts located. Each abstract contains three sections — bibliographic data, descriptors, and a summary of the document. The bibliographic section provides the document's identifying number (ED and/or EC), publication date, author, title, source, and availability. The descriptors indicate the subjects with which a document deals. The summary provides a comprehensive over view of the document's contents and in some cases document availability is announced here. An order form is enclosed for those documents available from ERIC Document Reproduction Service (EDRS). ERIC documents must be ordered by using the ERIC document number (ED number). Prices are noted on the back of the enclosed EDRS order blank.

If the selection of abstracts does not fill your request, please feel free to resubmit your question.

Sincerely,

(Miss) Carol L. Davis
Information Analyst

Encls.

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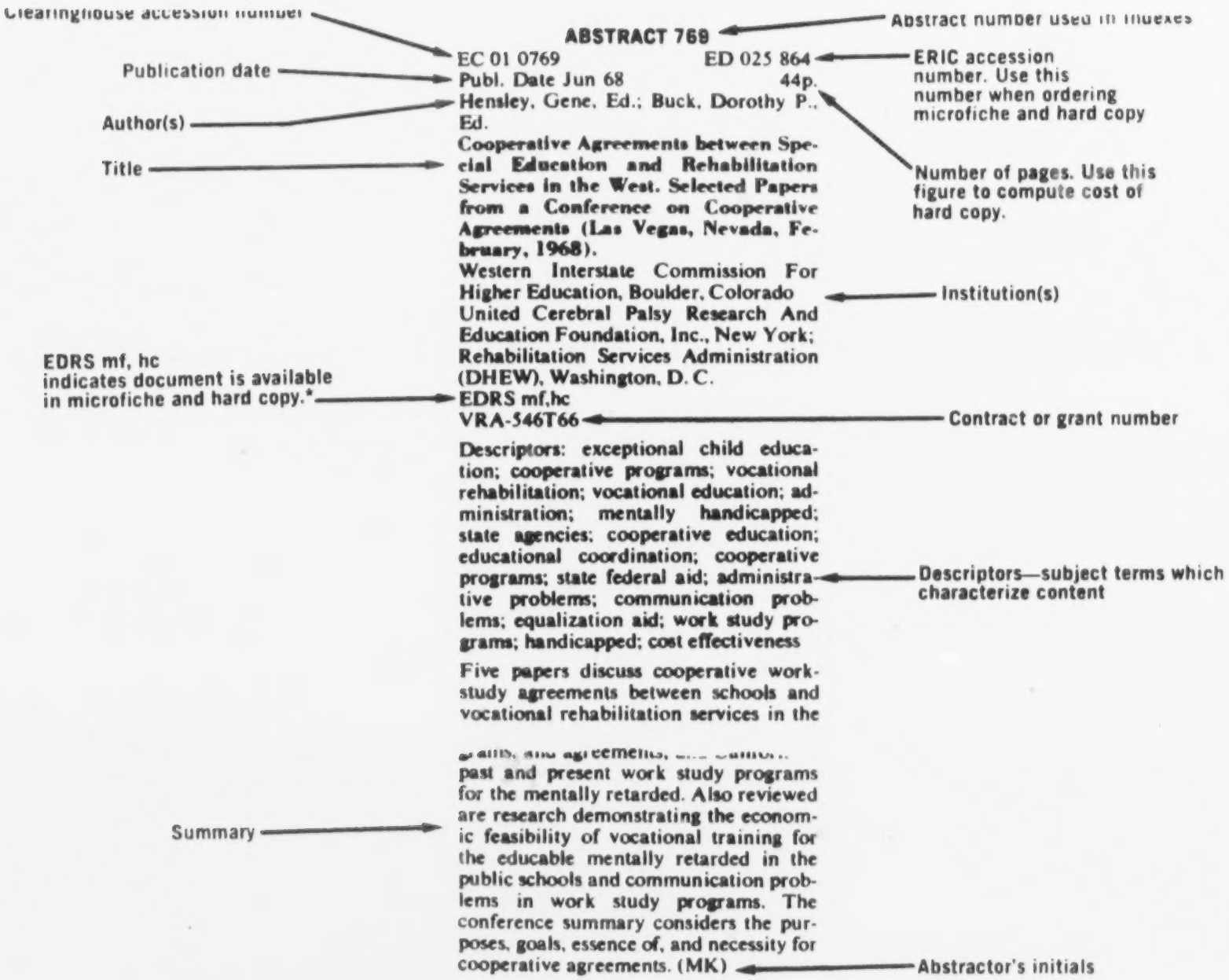
1411 SOUTH JEFFERSON DAVIS HIGHWAY
ARLINGTON, VIRGINIA 22202


Clearinghouse accession number
ABSTRACT 769
Abstract number used in indexes
EC 01 0769
ED 025 864
ERIC accession number. Use this number when ordering microfiche and hard copy
Publication date
Publ. Date Jun 68
44p.
Author(s)
Hensley, Gene, Ed.; Buck, Dorothy P., Ed.
Title
Cooperative Agreements between Special Education and Rehabilitation Services in the West. Selected Papers from a Conference on Cooperative Agreements (Las Vegas, Nevada, February, 1968).
Number of pages. Use this figure to compute cost of hard copy.
Western Interstate Commission For Higher Education, Boulder, Colorado
United Cerebral Palsy Research And Education Foundation, Inc., New York; Rehabilitation Services Administration (DHEW), Washington, D. C.
Institution(s)
EDRS mf, hc
indicates document is available in microfiche and hard copy.*
EDRS mf,hc
VRA-546T66
Contract or grant number
Descriptors: exceptional child education; cooperative programs; vocational rehabilitation; vocational education; administration; mentally handicapped; state agencies; cooperative education; educational coordination; cooperative programs; state federal aid; administrative problems; communication problems; equalization aid; work study programs; handicapped; cost effectiveness
Descriptors—subject terms which characterize content
Five papers discuss cooperative work-study agreements between schools and vocational rehabilitation services in the
past and present work study programs for the mentally retarded. Also reviewed are research demonstrating the economic feasibility of vocational training for the educable mentally retarded in the public schools and communication problems in work study programs. The conference summary considers the purposes, goals, essence of, and necessity for cooperative agreements. (MK)
Summary
Abstractor's initials

*NOTE: EDRS mf indicates microfiche reproduction only.

International Child Welfare Review
International Journal of Neuropsychiatry
International Rehabilitation Review
Journal for Special Educators of the Mentally Retarded
Journal of Abnormal Psychology
Journal of the American Dance Therapy Association
The Journal of the American Optometric Association
Journal of Applied Behavior Analysis
Journal of Applied Rehabilitation Counseling
Journal of the Association for the Study of Perception
Journal of Auditory Research
Journal of Autism and Childhood Schizophrenia
Journal of Child Psychology and Psychiatry
Journal of Consulting and Clinical Psychology
The Journal of Creative Behavior
Journal of Education
Journal of Educational Psychology
The Journal of Educational Research
The Journal of Experimental Education
The Journal of General Education
The Journal of General Psychology
The Journal of Genetic Psychology
Journal of the Handicapped Child
Journal of Health, Physical Education, Recreation
Journal of Health and Social Behavior
Journal of the Indiana Speech and Hearing Association
Journal of Infectious Diseases
Journal of Learning Disabilities
Journal of Marriage and the Family
Journal of Mental Deficiency Research
Journal of Music Therapy
The Journal of Negro Education
The Journal of Nervous and Mental Disease
Journal of Pediatrics
Journal of Personality
Journal of Personality and Social Psychology
Journal of Personality Assessment
The Journal of Psychology
Journal of Reading
Journal of Rehabilitation

CEC Information Center on Exceptional Children

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MEMBER OF THE SPECIAL EDUCATION IMC/RMC NETWORK

EXAMPLE 2

In regard to your recent request concerning job opportunities in the field of special education you will be interested in the following information.

The Council for Exceptional Children operates a Personnel Recruitment Service Center during CEC's annual international convention in the spring of each year. Personnel seeking employment may schedule appointments with employers who have registered for an interviewing station at the Center. The Center operates for a three day period. Watch the CEC journal Exceptional Children for announcements about the Personnel Recruitment Service Center.

CEC issues the Personnel Recruitment Bulletin which lists job vacancies and descriptions that have been registered with CEC by employers. Two issues of the Bulletin are issued annually, one publishes in conjunction with the CEC convention in the spring and the other in late fall. The convention issue lists employers interviewing applicants at the convention Recruitment Center. Both publications include the addresses of employers so that contacts may occur via mail. The current Bulletin may be obtained from CEC, 1411 Jefferson Davis Highway, Suite 900, Arlington, Virginia 22202, for $1.50.

For information on positions in services to the visually handicapped (such as education, rehabilitation counseling, social work, psychology, mobility instruction and rehabilitation teaching), contact the Personnel and Training Service, American Foundation for the Blind, 15 West 16th Street, New York, New York 10011.

The National Rehabilitation Counseling Association (1522 K Street, N. W., Washington, D. C. 20005) operates an employment exchange for persons seeking employment in agencies providing rehabilitation services. The Association also issues Jobs in Rehabilitation Services, a quarterly bulletin listing job openings.

National Personnel Registry and Employment Service operated by the National Easter Seal Society for Crippled Children and Adults (2023 West Ogden Avenue, Chicago, Illinois 60612) maintains a personnel registry and publishes the Employment Bulletin containing listings of positions currently available with Easter Seal Societies and other agencies engaged in the care and rehabilitation of the physically handicapped.

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Additional agencies providing employment services are:

American Occupational Therapy Association, 251 Park Avenue S., New York, New York 10010.

American Personnel and Guidance Association, 1605 New Hampshire Avenue, N. W., Washington, D. C. 20009.

American Psychological Association Employment, 1200 17th Street, N. W., Washington, D. C. 20036

American Physical Therapy Association, 1740 Bradway, New York, New York 10019.

American Speech and Hearing Association, 9030 Old Georgetown Road, Washington, D. C. 20014.

National Association of Social Workers Personnel Information, 2 Park Avenue, New York, New York 10016.

National Therapeutic Recreation Society, NRPA, 1700 Pennsylvania Avenue, Washington, D. C. 20006.

Social Work Vocational Bureau, 386 Park Avenue S., New York, New York 10016.

Should you be interested in employment within a specific geographical area, you should contact the State Director of Special Education within the particular State Department of Education.

Please let us know if we may provide additional assistance.

Yours truly,

CEC Information Center on Exceptional Children

EXAMPLE 3

An Educational Resources Information Center

MEMBER OF THE SPECIAL EDUCATION IMC/RMC NETWORK

In reply to your request, please note the following:

_____ The CEC Information Center on Exceptional Children maintains a computer storage and retrieval system which contains abstracts of research and resource documents in the field of exceptional child education. Abstracts stored at the Center are published in the Center's quarterly abstract publication Exceptional Child Education Abstracts. Abstracts cover a wide variety of items--research reports, journal articles, curriculum guides, teacher's activity manuals, administrative surveys and guidelines, texts for professionals, and literature for parents and students. ECE Abstracts is fully indexed for quick location of pertinent abstracts. Each abstract lists where the document itself may be purchased. Some documents are available from the publisher; some are available from the ERIC Document Reproduction Service in microfiche or paper reproduction. ECE Abstracts may be purchased on a subscription basis from the Council for Exceptional Children and is available in education libraries in some state departments, universities, school districts, and professional associations. (See enclosed order form.)

_____ Abstracts of documents relevant to exceptional child education are also published in Research in Education, the monthly abstract publication of the Educational Resources Information Centers (ERIC), which is available from the U.S. Government Printing Office. (See enclosed order form.) Research in Education contains abstracts of documents pertinent to the total field of education and selected abstracts in the area of exceptional child education.

_____ EriC ExCerpt, the newsletter of the CEC Information Center is enclosed. To receive the newsletter containing information on Center services and products, send a card giving name, occupation or organization, address, and zip code.

_____ Reprints and/or bibliographies of articles appearing in the CEC journal, Exceptional Children are enclosed along with the CEC Publications list.

_____ "A Guide to Agencies and Organizations Concerned with Exceptional Children" reprinted from Exceptional Children, April 1969, Vol. 35, No. 8 is enclosed.

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v

I would like to draw your attention to the Special Education IMC/RMC Network which provides services and information dealing with classroom materials and teaching aids. Special Education Instructional Materials Centers acquire both commercially and teacher prepared instructional materials such as films, textbooks, workbooks, manipulative materials, tests, and other teaching aids which are then announced and made available for loan. Inservice education programs, materials evaluation, mobile unit services, and preparation of bibliographies are additional services provided by some centers.

For further information on services available in your geographical area, contact your regional IMC:

An important source of information for the practitioner in special education is TEACHING Exceptional Children, a joint product of the Special Education IMC/RMC Network and the CEC Information Center. This new quarterly journal features instructional methods and materials designed or adapted for use with handicapped or gifted children, educational diagnostic techniques, evaluation of instructional materials, and research implications for the classroom. The journal is available on a subscription basis from The Council for Exceptional Children, Box 6034 Mid City Station, Washington, D.C. 20005, for $5.00 a year. A subscription form is enclosed.

Yours truly,

CEC Information Center
Educational Resources Information Center
newsletter
Information Processing Unit

EXCEPTIONAL CHILD BIBLIOGRAPHY SERIES

The following bibliographies have been compiled on a selective basis from issues of Exceptional Child Education Abstracts as of February, 1971. Criteria used in their selection is as follows: 1. Recency; 2. Availability; 3. Information Value; 4. Author's Reputation, and 5. Classical Content. Each abstract included provides pertinent bibliographic information about the document as well as a summary of its contents.

601. Hyperactivity - 27 Abstracts - No Index
602. Drug Therapy - 31 Abstracts - No Index
603. Autism - 47 Abstracts - No Index
604. Mongolism - 53 Abstracts - No Index
605. Arts and Crafts - 99 Abstracts - Index
606. Preschool and Early Childhood - 67 Abstracts - Index
607. Homebound or Hospitalized - 43 Abstracts - Index
608. Behavior Modification - 81 Abstracts - Index
609. Gifted and Creativity Programs - 81 Abstracts - Index
610. Administration - 37 Abstracts - Index
611. Curriculum Guides - 100 Abstracts - Index
612. Physical Education & Recreation - 73 Abstracts - Index
613. Reading Methods and Problems - 57 Abstracts - Index
614. Multiply Handicapped - 52 Abstracts - Index
615. Learning Disabilities - Programs - 96 Abstracts - Index
616. Learning Disabilities - Research - 57 Abstracts - Index
617. Emotionally Disturbed - Programs - 80 Abstracts - Index
618. Emotionally Disturbed - Research - 66 Abstracts - Index
619. Visually Handicapped - Programs - 53 Abstracts - Index
620. Visually Handicapped - Research - 81 Abstracts - Index
621. Educable Mentally Handicapped - Programs - 100 Abstracts - Index
622. Educable Mentally Handicapped - Research - 68 Abstracts - Index
623. Regular Class Placement/Special Classes - 56 Abstracts - Index
624. Aurally Handicapped - Programs - 89 Abstracts - Index
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628. Physically Handicapped & Special Health Problems - 77 Abstracts - Index
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637. Instructional Materials - 44 Abstracts - Index
638. Directories of Services and Facilities - 50 Abstracts - Index
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640. Trainable Mentally Handicapped - Programs - 58 Abstracts - Index
641. Trainable Mentally Handicapped - Research - 78 Abstracts - Index
642. Delinquency - 43 Abstracts - Index
643. Cerebral Palsy - 81 Abstracts - Index
644. Parent Counseling - 76 Abstracts - Index
645. Slow Learners - 83 Abstracts - Index
646. Minority Groups - 76 Abstracts - Index
647. Teacher Aids and Nonprofessional Personnel - 89 Abstracts - Index
650. Disadvantaged - 97 Abstracts - Index
651. Mental Health - 66 Abstracts - Index
652. Dyslexia - 84 Abstracts - Index
653. Audiovisual Instruction - 98 Abstracts - Index
654. Programed Instruction - 72 Abstracts - Index
657. A Selected Guide to Government Agencies, et. al.
658. A Selected Guide to Public Agencies, et. al.
659. Special Education IMC/RMC Film Collection

Publications
1971-1972

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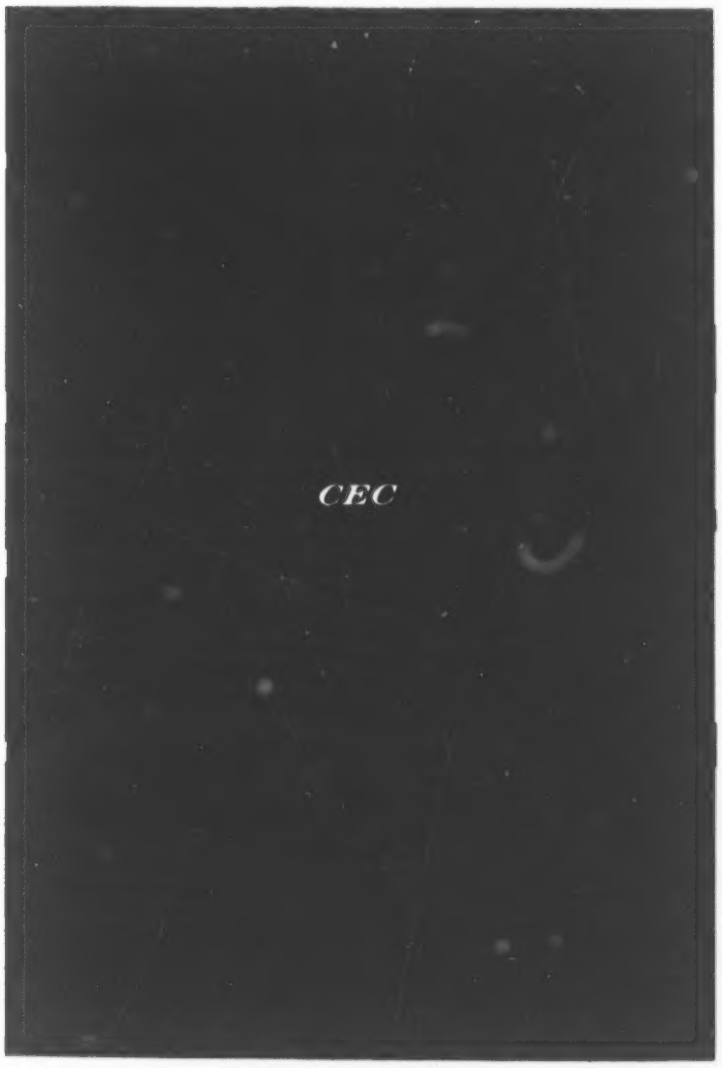

EXAM

What is CEC?

The Council for Exceptional Children, a professional organization, is devoted to the improvement of the education of all exceptional children—handicapped and gifted.

Founded in 1922, CEC has a membership comprised of administrators, teachers, therapists, clinicians, students, and other persons concerned with the education of exceptional children and youth.

CEC serves the educational community through its publications, special conferences, conventions, personnel recruitment and employment services, legislative and other activities.

Persons interested in CEC, its services and resources, are invited to write for further information to:

The Council for Exceptional Children
Suite 900, Jefferson Plaza, Building 1
1411 South Jefferson Davis Highway
Arlington, Virginia 22202

PUBLICATIONS

No. 1. The Parent Teacher Partnership. Ray H. Barsch. A practical book for parents and teachers sharing the mutual desire to optimize the development of the special child at school and home. 1969. 100 pp.

1a—Paperback—price per copy $3.50
1b—Clothbound—price per copy $4.75

No. 2. The Educability of Intelligence: Preschool Intervention with Disadvantaged Children. Burton Blatt and Frank Garfunkel. A study which located a group of preschool children from a lower class strata and provided them with a preacademic and nursery school experience. The problems involved in such studies are discussed. 1969. 176 pp.

2a—Paperback—price per copy $4.95
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No. 3. The Role of the Resource Consultant in Special Education. Kenneth R. Blessing, editor. Chapters by different authors concerning the resource consultant's role in the fields of mental retardation, visual and hearing impairment, emotional disturbance, speech correction, the gifted, special learning disabilities, and physical handicaps. 1968. 132 pp.

3a—Paperback—price per copy $4.25
3b—Clothbound—price per copy $5.75

No. 4. Effects of Community and Institutional School Programs on Trainable Mentally Retarded Children (Series B1). Leo F. Cain and Samuel Levine. This book discusses the changes in social abilities of trainable retarded children attending school, living in the community, and staying in institutions. 1963. 64 pp.

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No. 7. Teaching Aids and Toys for Handicapped Children. Barbara Dorward. Describes construction and use of pegboards, puzzles for developing size and space perception, color discrimination, and reading and number readiness. 1960. 64 pp.

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No. 8. Productive Thinking of Gifted Children in Classroom Interaction (Series B5). James J. Gallagher, Mary Jane Aschner, and William Jenne. Interrelationships among sex, family environment, self concepts, cognitive style, verbal expressiveness, IQ score, and scores on productive thinking tests examined in classes of gifted secondary school students. 1967. 112 pp.

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social adjustmen

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No. 16. Researc
Children (Series
A collection of
in deaf children
New York. 1965

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No. 17. The Pri
Scholl. Discusse

EXAMPLE 5

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No. 2. The Educability of Intelligence: Preschool Intervention with Disadvantaged Children. Burton Blatt and Frank Garfunkel. A study which located a group of preschool children from a lower class strata and provided them with a preacademic and nursery school experience. The problems involved in such studies are discussed. 1969. 176 pp.

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No. 5. The Principal Looks at Classes for the Physically Handicapped. Gloria Calovini. Discusses the identification and impact of physical handicaps, various educational programs, placement, educational provisions, ancillary services, and administrative responsibilities. 1969. 50 pp.

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No. 6. Factors Related to Special Education Services (Series B3). James C. Chalfant. A study concerning the nature of economic and demographic factors underlying provisions of special education services. A Special Education Expectancy Index is included. 1967. 72 pp.

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No. 8. Productive Thinking of Gifted Children in Classroom Interaction (Series B5). James J. Gallagher, Mary Jane Aschner, and William Jenne. Interrelationships among sex, family environment, self concepts, cognitive style, verbal expressiveness, IQ score, and scores on productive thinking tests examined in classes of gifted secondary school students. 1967. 112 pp.

Price per copy $2.50

No. 9. Brain Damage in School Age Children. H. Carl Haywood, editor. Chapters on: the organization of the central nervous system, organic language disorders, the epilepsies, use of psychological tests in diagnosing brain damage, the laboratory method of screening, minimal brain dysfunction, the theories of Doman and Delacato, and an annotated bibliography on anoxia. 1968. 284 pp.

9a—Paperback—price per copy $6.50
9b—Clothbound—price per copy $7.95

No. 10 Exceptional Children Research Review. G. Orville Johnson and Harriett Blank, editors. Abstracts, reviews, and discussions of research studies in the various areas of special education by authorities in the fields. 1968. 348 pp.

10a—Paperback—price per copy $5.75
10b—Clothbound—price per copy $7.95

No. 11. Helping Young Children Develop Language Skills: A Book of Activities. Merle B. Karnes. Various games, stories, dialogs, projects, and other activities for teachers to use when working to improve the language skills, based on the subtests of the Illinois Test of Psycholinguistic Abilities. 1968. 144 pp.

Price per copy $3.50

No. 12. Behavioral Research on Exceptional Children. Samuel A. Kirk and Bluma B. Weiner, editors. Survey of research in all major areas of exceptionally, summarized and discussed by authorities in each area. 1963. 384 pp.

12a—Paperback—price per copy $5.50
12b—Clothbound—price per copy $7.95

No. 13. The Abilities of Young Children (Series B4). Ruth A. Martinson and May V. Seagoe. A study to establish criteria for evaluating the creativity of products of elementary school children and to determine the relationship between creative ability and intelligence. 1967. 76 pp.

Price per copy $2.50

No. 14. Public School Classes for the Emotionally Handicapped: A Research Analysis. William C. Morse, Richard L. Cutler, and Albert H. Fink. An analysis and discussion of the emotionally handicapped child, how programs originate and operate, structure of the programs, and the personnel involved. 1964. 152 pp.

Price per copy $2.95

No. 15. Institutionalization and Psycho-Educational Development of Deaf Children (Series A3). Stephen P. Quigley and D. Robert Frisina. A comparison of residential and day students on communication variables in the English language, educational achievement, and psychosocial adjustment. 1961. 56 pp.

Price per copy $2.50

No. 16. Research Studies on the Psycholinguistic Behavior of Deaf Children (Series B2). Joseph Rosenstein and Walter H. MacGinitie. A collection of four studies of the linguistic processes and problems in deaf children conducted at the Lexington School for the Deaf in New York. 1965. 48 pp.

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No. 20. Special Education and Programs for Disadvantaged Children and Youth. Abraham J. Tannenbaum, editor. A compilation of papers delivered at the conference. Contributors include James J. Gallagher, Samuel C. Ashcroft, Dorothy B. Carr, Norris G. Haring, and Mamie Jo Jones. 1968. 140 pp.
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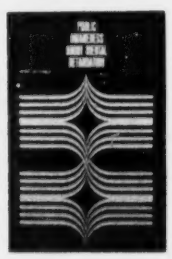
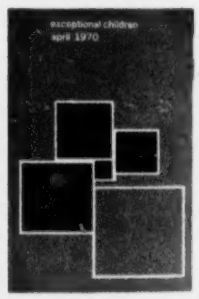

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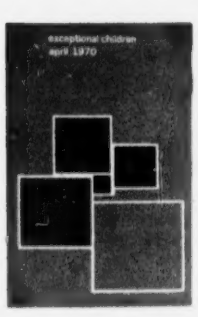

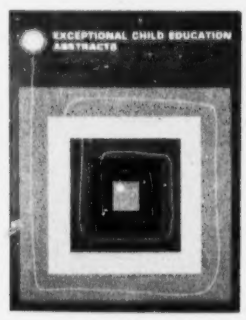

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P4-71

1. What's the Question?

What is Career Education?

What is involved in developing career education programs based on: school activities; commercial, business, or industrial experiences; home-centered activities?

EXAMPLE 6

2. The Thesaurus Has the Index Terms

BUSINESS • CAREER PLANNING • EDUCATIONAL PROGRAMS • HOME INSTRUCTION • HOME PROGRAMS • INDUSTRY • OCCUPATIONAL INFORMATION • SCHOOL INDUSTRY RELATIONSHIP • SCHOOLS • VOCATIONAL EDUCATION

3. The Question Formatted For Searching

(CAREER PLANNING **OR** OCCUPATIONAL INFORMATION **OR** VOCATIONAL EDUCATION) **AND** (BUSINESS **OR** INDUSTRY **OR** SCHOOL INDUSTRY RELATIONSHIP **OR** HOME INSTRUCTION **OR** HOME PROGRAMS **OR** EDUCATIONAL PROGRAMS **OR** SCHOOLS) = **ANSWER**

4. These Are the Search Results

(ERIC document and journal article accession numbers)

ED-049882	ED-050295	ED-051399	ED-052472	EJ-022847
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This microfiche sample contains the complete document

5. Review the Abstracts

ED 050 295 VT 013 234

Marland, S. P., Jr.

Career Education—More Than A Name.

Department of Health, Education, and Welfare, Washington, D. C. Office of the Commissioner of Education.

Note—14 p.; Speech Presented to the Meeting of State Directors of Vocational Education (Annual, Washington, D. C., May 4, 1971)

EDRS Price MF-$0.65 HC-$3.29

Descriptors—Career Opportunities, Careers, Education, Educational Finance, *Educational Innovation, *Educational Philosophy, Educational Programs, Educational Research, *Program Descriptions, Speeches, *Vocational Development, *Vocational Education

Identifiers—*Career Education

The career education concept should replace vocational education so that more of the American people can receive the benefits that are being provided students in vocational education. It is necessary to begin to construct a sound, systematized relationship between education and work, a system which will make it standard practice to teach every student about occupations and the economic enterprise and which will increase career options for each individual. The National Center for Educational Research and Development is concentrating on the development of three model career education programs. The first model, oriented directly toward the school setting, would affect kindergarten through junior college by reshaping the curriculum to focus directly on the concept of career development. The second model would be created, developed, operated, and supported primarily by business in companionship with the schools. This program would concentrate on the 13 to 20 age group who have left school without needed competencies. The final model is a plan to use the home and community institutions to reach and teach persons with limited formal school and skills needed in successful employment. Such programs will give vocational education the national prestige that it needs. (GB)

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THE EDUCATION OF HANDICAPPED CHILDREN IN NEW JERSEY, 1954-1964.

NEW JERSEY STATE BOARD OF EDUCATION, COMMISSION ON THE EDUCATION OF THE HANDICAPPED

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THE REPORT OF THE NEW JERSEY COMMISSION ON THE EDUCATION OF THE HANDICAPPED RECOMMENDS UNIFICATION OF THE LAWS, ADMINISTRATION, SERVICES, AND FINANCING FOR THE STATE'S HANDICAPPED. INTRODUCTORY MATERIAL CITES BASIC PRINCIPLES OF EDUCATIONAL PROGRAMING FOR HANDICAPPED CHILDREN AND GIVES GENERAL RECOMMENDATIONS IN THE AREAS OF STATUTORY REVISION, STATE AND LOCAL ADMINISTRATION, PROFESSIONAL TRAINING, AND FINANCE. THE REPORT DESCRIBES THE PRESENT SITUATION, CITES INHERENT PROBLEMS, AND RECOMMENDS SOLUTIONS IN A SUMMARY OF SERVICES FOR THE DEAF AND HARD OF HEARING, CEREBRAL PALSIED, MENTALLY RETARDED, SPEECH DEFECTIVE, VISUALLY IMPAIRED, AND BRAIN INJURED. PROPOSED ADMINISTRATIVE FUNCTIONS ARE TREATED ON STATE AND COUNTY LEVELS. RECOMMENDED STANDARDS ARE GIVEN FOR TRAINING PROFESSIONAL PERSONNEL AND METHODS OF FINANCING AND COST ESTIMATES OF SPECIAL EDUCATION SERVICES ARE OUTLINED. (JB)

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62P.

STATE LEGISLATION FOR CHILDREN WITH LEARNING DISABILITIES. CEC STATE-FEDERAL INFORMATION CLEARINGHOUSE FOR EXCEPTIONAL CHILDREN SERIES ON GOVERNMENT AND THE EXCEPTIONAL CHILD, VOLUME I.

COUNCIL FOR EXCEPTIONAL CHILDREN, ARLINGTON, VIRGINIA

OFFICE OF EDUCATION (DHEW), WASHINGTON, D. C.

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/ EXCEPTIONAL CHILD EDUCATION/ STATE LEGISLATION/ LEARNING DISABILITIES/ EDUCATIONAL PROGRAMS/ STATE LAWS/ SPECIAL CLASSES/ ADMISSION CRITERIA/ ADMINISTRATOR RESPONSIBLITY/ SCHOOL DISTRICTS/ SCHOOL DISTRICT SPENDING/ ADMINISTRATIVE POLICY/ SCHOOL ATTENDANCE LAWS/ FINANCIAL SUPPORT/ DEFINITIONS/ SPECIAL SERVICES

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Yours truly,

(Miss) Joyce Parrish
Information Services

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Unpublished papers from CEC's Pan Pacific Conference on the Education of Exceptional Children, (Honolulu, Hawaii, February 9-12, 1971) are now available from the ERIC Document Reproduction Service (EDRS). The conference papers were announced in a series of resumes (ED 049 568 - ED 049 578) in the August 1971 issue of Research in Education. The following papers are available:

ED 049 568 Lehrman, Raymond H. Planning Special Education in the Pacific Islands, 31 pages, EDRS price MF $0.65, HC $3.29.

ED 049 569 Educating Exceptional Children on Guam, 15 pages, EDRS price MF $0.65, HC $3.29.

ED 049 570 Johnston, Betty and Savali, Iutita, Early Childhood Education in American Samoa Report Years 1969 and 1970, 19 pages, EDRS price MF $0.65, HC $3.29.

ED 049 571 Kuo, Wei-fan and Ferng, Jia-junn, Special Education Programs in Taiwan, Republic of China, 12 pages, EDRS price MF $0.65, HC $3.29.

ED 049 572 Rhee, Tae Yung and An, Tae Yun, Special Education in the Republic of Korea, 11 pages, EDRS price MF $0.65, HC $3.29.

ED 049 573 Kitahara, Hitoshi, Current Status and Problems of Special Education in Japan, 12 pages, EDRS price MF $0.65, HC $3.29.

ED 049 574 Ross, David H. and Young, Alan J., The Education of Handicapped Children and Youth in New Zealand, 18 pages, EDRS price MF $0.65, HC $3.29.

ED 049 575 Emerson, T. L. W. and Wilson, J. J., The Education of Handicapped Children in Australia, 31 pages, EDRS price MF $0.65, HC $3.29.

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ED 049 576 A Report on Special Education in the Philippines, 34 pages, EDRS price MF $0.65, HC $3.29.

ED 049 577 Educational and Other Services for Handicapped Children and Youth in the Republic of Indonesia, 27 pages, EDRS price MF $0.65, HC $3.29.

ED 049 578 Rowe, Elizabeth, Special Education in Hong Kong, 9 pages, EDRS price MF $0.65, HC $3.29.

To order microfiche or hard copy, submit ED number, type of reproduction (MF or HC), and number of copies to ERIC Document Reproduction Service (EDRS), LEASCO Information Products, Inc., 4827 Rugby Avenue, Bethesda, Maryland 20014. Payment must accompany orders totaling less than $10.00.

CEC Information Center on Exceptional Children

An Educational Resources Information Center

MEMBER OF THE SPECIAL EDUCATION IMC/RMC NETWORK

CEC SELECTED CONVENTION PAPERS FROM THE 48th ANNUAL INTERNATIONAL CONVENTION - April 19-25, 1970, CHICAGO, ILLINOIS

ED 039 378 Teaching Strategies, Methods, and Materials.
EC 006 020 11 papers; EDRS price MF $0.50, HC $5.80.

ED 039 379 Cognitive and Affective Characteristics of Exceptional Children.
EC 006 024 5 papers; EDRS price MF $0.50, HC $3.10.

ED 039 380 Speech, Language, and Communication Disorders.
EC 006 023 9 papers; EDRS price MF $0.50, HC $5.00.

ED 039 381 Hearing Impaired.
EC 006 021 3 papers; EDRS price MF $0.25, HC $1.80.

ED 039 382 Stimulating the Environment for Disadvantaged and Minority Group Children.
EC 006 028 5 papers; EDRS price MF $0.25, HC $2.10.

ED 039 383 Special Class Placement - A Continuing Debate.
EC 006 026 5 papers; EDRS price MF $0.25, HC $1.80.

ED 039 384 Medical Intervention and the Problem of Drugs.
EC 006 022 4 papers; EDRS price MF $0.25, HC $2.15.

ED 039 385 Early Childhood.
EC 006 029 5 papers; EDRS price MF $0.50, HC $6.25.

ED 039 386 Vocational Education and Work Study Programs.
EC 006 025 6 papers; EDRS price MF $0.50, HC $3.45.

ED 039 387 Preparation of Personnel.
EC 006 027 7 papers; EDRS price MF $0.50, HC $6.05.

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EARLY CHILDHOOD CONFERENCE PAPERS AVAILABLE

Unpublished papers from CEC's Special Conference on Early Childhood Education (New Orleans, December 10-13, 1969) are now available from the ERIC Document Reproduction Service (EDRS). A total of 40 conference papers gathered into five collections were announced in a series of resumes (ED 034 907 - ED 034 911) in the May 1970 issue of Research in Education. Each resume lists titles of papers in the collection and the EDRS prices for microfiche and hard copy reproductions. The five collections are:

ED 034 907 Exceptional Children Conference Papers: Early Childhood Education - An Overview, 8 conference papers, 164 pages, EDRS price MF $0.75, HC $8.30.

ED 034 909 Exceptional Children Conference Papers: Curriculum, Methods, and Materials in Early Childhood Education Programs, 13 conference papers, 175 pages, EDRS price MF $0.75, HC $8.85.

ED 034 908 Exceptional Children Conference Papers: Environmental Influences in the Early Education of Migrant and Disadvantaged Students, 7 conference papers, 85 pages, EDRS price MF $0.50, HC $4.35.

ED 034 911 Exceptional Children Conference Papers: Training and Personnel in Early Childhood Education Programs, 4 conference papers, 57 pages, EDRS price MF $0.25, HC $2.95.

ED 034 910 Exceptional Children Conference Papers: Parent Participation in Early Childhood Education, 8 conference papers, 121 pages, EDRS price MF $0.50, HC $6.15.

To order microfiche or hard copy, submit ED number, type of reproduction (MF or HC), and number of copies to ERIC Document Reproduction Service (EDRS), The National Cash Register Company, 4936 Fairmont Avenue, Bethesda, Maryland 20014. Payment must accompany orders totaling less than $5.00. Add a special handling charge of 50 cents to all orders. The ERIC Document Reproduction Service is registered to collect sales taxes, and orders from states which have sales tax laws must include payment of the appropriate tax or tax exemption certificates. A 25 percent service charge, calculated to the nearest cent, must accompany orders from outside the United States, its territories, and possessions.

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INSTRUCTIONAL TECHNOLOGY CONFERENCE PAPERS

Papers presented at the Special Conference on Instructional Technology in San Antonio, Texas, December 1-4, 1970.

ED 047 440 **Adoption of Technology and Program Development.** 56 pages; EDRS price MF $0.65, HC $3.29.

ED 047 441 **Instructional Technology for Personnel Training.** 102 pages; EDRS price MF $0.65, HC $6.58.

ED 047 442 **The Improvement of Special Education through Instructional Technology.** 38 pages; EDRS price MF $0.65, HC $3.29.

ED 047 443 **Communication, Production, and Dissemination of Instructional Technology.** 43 pages; EDRS price MF $0.65, HC $3.29.

ED 047 444 **The Use and Evaluation of Instructional Technology in the Classroom.** 90 pages; EDRS price MF $0.65, HC $3.29.

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CEC SELECTED CONVENTION PAPERS FROM THE 47th ANNUAL INTERNATIONAL CONVENTION - April 6-12, 1969, Denver Colorado

ED 041 437 Proceedings of the Annual International Convention of the Council for Exceptional Children. 536 pages; EDRS price MF $0.65, HC $16.45.

ED 041 438 Learning Disabilities. 60 pages; EDRS price MF $0.65, HC $3.29.

ED 041 439 The Gifted. 36 pages; EDRS price MF $0.65, HC $3.29.

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CONFERENCE PAPERS AVAILABLE

Unpublished papers frome CEC's Special Conference on Emerging Models of Special Education for Sparsely Populated Areas (Memphis, Tennessee December 1-4, 1971) are now available from the ERIC Document Reproduction Service (EDRS). The conference papers will be announced in a series of resumes (ED 057-508- ED 057 517) in the April 1972 issue of Research in Education.

ED 057 508 Application of Accountablity to Special Education in Rural Areas; Vergason, Glenn A., 19 pages, EDRS price $0.65 for microfiche, $3.29 for hardcover.

ED 057 509 Transportation Problems in Special Education Programs in Rural Areas; Brody, Z.H., 12 pages, EDRS price $0.65 MF, $3.29 HC.

Ed 057 510 A Tiger by the Tail: Dilemma for Special Education; Curtis, Leonard T., 22 pages, EDRS price, $0.65 MF, $3.29 HC.

ED 057 511 An Integrated Model for Individualizing Services to Children with Learning Problems; Dangel, Harry L. and Others, 6 pages, EDRS price $0.65 MF, $3.29 HC.

ED 057 512 The Organization, Administration and Training of Teachers in an Intensive Workshop; Gallien, John J., 17 pages, EDRS price $0.65 MF, $3.29 HC.

ED 057 513 Structured Activities in Perceptual Training to Aid Retention and Auditory Images; Graves, James W. and Others, 46 pages, EDRS price $0.65 MF, $3.29 HC.

ED 057 514 Texas Plan A: Two Emerging Models for Provision of Services to the Handicapped in Sparsely Populated Areas; Moss, John R., 14 pages, EDRS price $0.65 MF, $3.29 HC.

ED 057 515 Parents' Support of Gifted Programs; Bruch, Catherine, 15 pages, EDRS price $0.65 MF, $3.29 HC.

ED 057 516 Administering Programs for Volunteer Services for the Gifted; Runyon, Joyce M., 7 pages, EDRS price $0.65 MF, $3.29 HC.

ED 057 517 Comprehensive Vocational Programs for Handicapped Students; Gary, A.L., 10 pages, EDRS price $0.65 MF, $3.29 HC.

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Papers Presented at the Northwest Regional Conference
Vancouver, British Columbia, October 21-23, 1970

ED 046 446 Social and Institutional Changes in Special Education. 42 pages; EDRS price MF $0.65, HC $3.29.

ED 046 447 Administrative Procedures and Program Organization. 134 pages EDRS price MF $0. 65, HC $6.58.

ED 046 448 Involvement of Parents in School Programs. 17 pages; EDRS price MF $0.65, HC $3.29.

ED 046 449 Teaching Strategies, Methods, and Instructional Materials. 131 pages; EDRS price MF $0.65, HC $6.58.

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CEC Information Center on Exceptional Children

EXAMPLE 13

An Educational Resources Information Center

MEMBER OF THE SPECIAL EDUCATION IMC/RMC NETWORK

In response to your recent letter, I would like to draw your attention to the Special Education IMC/RMC Network which provides services and information dealing with classroom materials and teaching aids. Special Education Instructional Materials Centers acquire both commercially and teacher prepared instructional materials such as films, textbooks, workbooks, manipulative materials, tests, and other teaching aids which are then announced and made available for loan. Inservice education programs, materials evaluation, mobile unit services, and preparation of bibliographies are additional services provided by some centers.

For further information on services available in your geographical area, contact your regional IMC:

An important source of information for the practitioner in special education is TEACHING Exceptional Children, a joint product of the Special Education IMC/RMC Network and the CEC Information Center. This new quarterly journal features instructional methods and diagnostic techniques, evaluation of instructional materials, and research implications for the classroom. The journal is available on a subscription basis from The Council for Exceptional Children, Box 6034 Mid City Station, Washington, D.C. 20005, for $5.00 a year. A subscription form is enclosed.

You will find teaching manuals and curriculum guides announced in Exceptional Child Education Abstracts, a quarterly abstract publication, fully indexed for quick location of pertinent abstracts. Literature about Exceptional Child Education Abstracts and other abstract and index publications in the field of education is enclosed.

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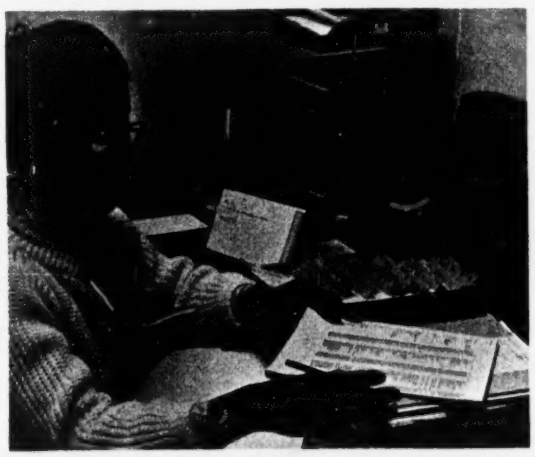
Finally, complimentary CEC literature (such as bibliographies, journal article reprints, or publications list) relevant to your request has been enclosed.

Yours truly,

ERIC EXCERPT

VOLUME 4
NUMBER 2
JANUARY 1970
CEC Information Center on Exceptional Children

Growing and Expanding Information Services Offered by ERIC and the CEC Center



The Acquisitions Unit maintains records on all items solicited and received by the Center. Over 5,000 individual publications have been recorded.

Operators strike the keyboard about 3,600 times to key each abstract processed for computer storage and retrieval. Currently the file is growing at the rate of 300 entries per month.

ERIC—A Program of Progress

More than 33,000 requests for information on specific topics were handled during fiscal year 1968 by a rapidly growing national educational information network—the Educational Resources Information Centers (ERIC). Beginning in 1966 with 10 subject oriented clearinghouses, ERIC has now expanded to 19 clearinghouses, each responsible for monitoring the literature of a particular area of education. There are clearinghouses in the areas of exceptional children, early childhood education, reading, disadvantaged, and 15 other topic areas. Monitoring activities include the acquisition of timely and pertinent research and resource literature which is then abstracted and announced in the monthly network abstract publication, *Research in Education (RIE).*

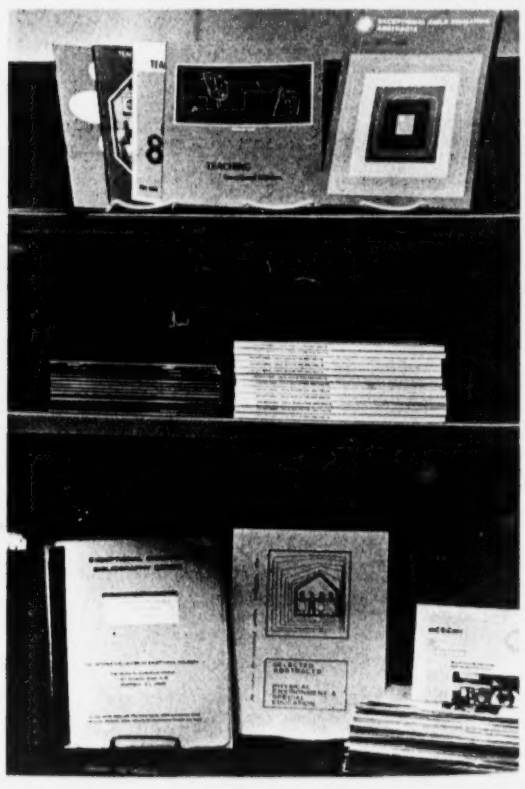
ERIC has rapidly grown into a major information resource. In fiscal year 1968, clearinghouses collected more than 35,000 educational documents. In the screening and evaluation process, 10,000 of these were discarded, 13,000 were retained in individual clearinghouse collections, and 12,000 of the most significant were processed into *Research in Education.*

Most documents announced in *RIE* are available through ERIC in reproduced form

Right: The monthly shipment of abstracts for announcement in ERIC's RIE requires careful checking for duplication, microfiche prices, and cataloging information.

Left: Packets containing selected bibliographies, reprints of articles from CEC journals, and selected abstracts are prepared to answer the hundreds of questions received by the Center each month.

Periodicals, bibliographies, and newsletters keep special educators up to date on the latest research, teaching techniques, and innovative programs.



Visitors to the Information Center Library have access to the total ERIC microfiche collection. Copies of individual microfiche pages can be reproduced on the reader-printer for later reference use.

(microfiche and/or paper copy). A 4
microfiche card contains up to 70 photo
pages of a document and sells for on
ERIC users purchased a total of 3,550,000
in microfiche during 1968. During the
months of 1969 over 4.2 million indivi
crofiche were distributed.

A new direction in growth was u
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Index terms used in *CIJE* are consiste
those used in *RIE*.

In addition to the identification
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Through all these services the ER
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CEC Information Center—Progress and Potential

"Does CEC provide literature on te
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teaching retarded children"... "Is t
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Building a substantial data bank a
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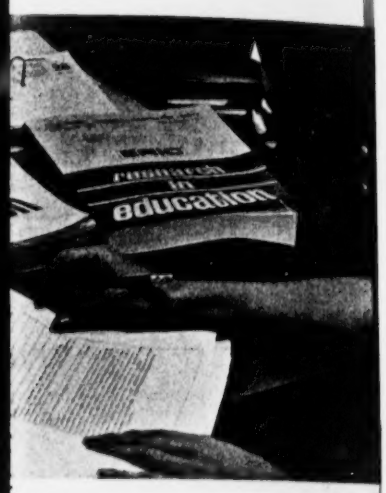

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Center Library have access to the
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(microfiche and/or paper copy). A 4" × 6" microfiche card contains up to 70 photo reduced pages of a document and sells for only $.25. ERIC users purchased a total of 3,550,000 reports in microfiche during 1968. During the first six months of 1969 over 4.2 million individual microfiche were distributed.

A new direction in growth was undertaken in 1969 when a second monthly ERIC publication was launched. *Current Index to Journals in Education (CIJE)* indexes approximately 1,000 articles each month from more than 350 journals. *CIJE* is a companion publication to *RIE*, but does not include abstracts. Index terms used in *CIJE* are consistent with those used in *RIE*.

In addition to the identification and announcement of significant publications, the clearinghouses respond to a large number of individual user requests for information. More than 11,600 requests were received and answered by clearinghouses during the period April through June 1969. Clearinghouses also issue newsletters and special publications in their respective subject areas, including bibliographies, monographs, and literature reviews.

Through all these services the ERIC clearinghouses are facilitating the dissemination of educational information to meet the needs of educators.

ERIC ExCERPT

CEC Information Center on Exceptional Children
1499 Jefferson Davis Highway, Suite 900
Arlington, Virginia 22202

The CEC Information Center on Exceptional Children is an Educational Resources Information Center (ERIC) and a member of the Special Education IMC/RMC Network. The Center disseminates information related to the education of children and youth who require special services, including the gifted, mentally retarded, visually impaired, deaf, hard of hearing, physically handicapped, emotionally disturbed, and speech and language impaired.

ERIC EXCERPT, the Center newsletter, announces services and products available from the CEC Information Center, the ERIC network, and the IMC/RMC Network. Periodically an issue or portion of ERIC EXCERPT is devoted to other informative compilations of services or resources in the area of exceptional children.

ERIC EXCERPT, currently published as a department in *Exceptional Children*, is reprinted for special distribution on a complimentary basis. Individuals and school units will be placed on the mailing list upon request.

CEC Information Center—Progress and Potential

"Does CEC provide literature on teaching the blind as a career"... "I am interested in information on the value of programed learning in teaching retarded children"... "Is there any research concerning the identification of variables related to job capability of the special education student"... Over 400 such questions from students, teachers, administrators, researchers, and parents are answered each month by the CEC Information Center. Packets are prepared for individual requests with appropriate items, such as general bibliographies, computer generated bibliographies with subject indexes, reprints of journal articles, selected abstracts, brochures, etc.

Building a substantial data bank and developing information dissemination products has been the core of the Center's program. Major activities during the past year included abstracting and indexing special education literature, developing a computerized storage and retrieval system, and producing new publications.

The CEC Center abstracts and indexes approximately 50 documents per month for announcement in ERIC's *Research in Education* (*RIE*). In addition about 200 non-ERIC abstracts are processed for the Center's own computer file. As of November 1, 1969, a total of 1,220 CEC abstracts had been contributed to *RIE* and 2,200 items stored on the Center's file. Wih this as the data base, a series of computer generated bibliographies on various topics, such as *Learning Disabilities* and *Behavior Modification*, were produced to answer information requests.

Publication highlights of the past year were the two new quarterly journals, *Exceptional Child Education Abstracts* and *TEACHING Exceptional Children*. Containing the abstracts stored on the computer file of the CEC Information Center, *ECE Abstracts* covers research reports, journal articles, curriculum guides, teachers' activity manuals, administrative surveys and guidelines, and texts for both professionals and beginning students. *TEC's* basic objective is to disseminate practical and timely information to classroom teachers working with exceptional children. It features articles on instructional methods and materials, educational diagnostic techniques, evaluation of instructional materials, and research implications for the classroom.

A forecast of the CEC Center's program objectives for this year includes:

- Expanding the abstract files to include nonprint materials and foreign documents.
- Producing an increased number of computer generated bibliographies.
- Developing various information packets to answer user needs.
- Focusing on a program to translate research results into educational practice.
- Developing and evaluating information dissemination models.

With increased services and product development, the CEC Center and the total ERIC program represent a most valuable resource for educators and educational planners.

Keeping Pace with ERIC

Thousands of educators are utilizing the services of ERIC. Special educators anxious to keep current with ERIC and the CEC Information Center on Exceptional Children (an ERIC Clearinghouse) will want to:

- Request placement on the CEC Information Center's mailing list to receive "ERIC ExCerpt" which announces new services and products as they are developed. Send name and address to the CEC Information Center, The Council for Exceptional Children, 1499 Jefferson Davis Highway, Suite 900, Arlington, Virginia, 22202.

Call for Documents

Your help is needed in the acquisitions effort of the CEC Information Center.

The construction of a complete "acquisitions net" in a field so vast in geographical area and subject scope is a difficult project. Therefore, in addition to its own acquisitions efforts the Center requests individuals in the field to be alert to new literature that should be brought to the attention of the educational community. Teaching manuals, curriculum guides, local school system reports, research reports, special project reports, substantive speeches, conference proceedings—all these types of documents are evaluated, processed, and announced by the Center. Individuals who are involved with or aware of publications pertaining to exceptional children would greatly assist the Center in building a comprehensive information resource by sending one copy to the CEC Information Center on Exceptional Children, 1499 Jefferson Davis Highway, Suite 900, Arlington, Virginia 22202.

- Subscribe through your local education association or professional library to *Exceptional Child Education Abstracts*, a quarterly abstract publication announcing pertinent literature relevant to the education of the handicapped and the gifted. Order from The Council for Exceptional Children, Box 6034, Mid City Station, Washington, D.C. 20005. Basic subscription $50.00, supplementary subscriptions, $25.00 each.
- Subscribe to *TEACHING Exceptional Children*, the Center's quarterly journal designed expressly for classroom teachers. Order from The Council for Exceptional Children, Box 6034, Mid City Station, Washington, D.C. 20005. Subscription $5.00.
- Work with your local professional educational library to develop a full research collection of ERIC products including especially:

Research in Education. Subscription $21.00 ($26.25 foreign).

Office of Education Research Reports, 1956-65. Resumes, $1.75; Indexes $2.00.

ERIC/EC Automatic Distribution Program

ERIC Document Reproduction Service (EDRS)

4936 Fairmont Avenue

Bethesda, Maryland 20014

Microfiche reproductions of all documents processed into *Research in Education* (*RIE*) by the CEC Information Center may be purchased by standing order. A standing order will automatically supply the purchaser with microfiche reproductions of all documents processed into *RIE* by the CEC Information Center and announced in *RIE* as available. Automatic distribution will be made on a quarterly basis with billing at the time of shipment. The estimated cost is approximately $50.00 per quarter.

Back orders of microfiche reproductions of documents processed into *RIE* by the CEC Information Center are also available:

Microfiche reproductions of 101 documents announced July-Dec., 1967	$44.75
Microfiche reproductions of 267 documents announced Jan.-Dec., 1968	$121.25

All orders must be placed with the ERIC Document Reproduction Service (EDRS) at the above address. Orders from states which have sales tax laws should include payment of the appropriate tax or tax exemption certificate. A 25 percent service charge must accompany orders from outside the United States, its territories, and possessions.

Pacesetters in Innovation, Fiscal Year 1967, $3.00; Fiscal Year 1968, $2.50. (Resumes of projects to advance creativity in education.)

How to Use ERIC, $.25 (A graphic aid to the use of the ERIC system.)

The above ERIC publications may be purchased from the Superintendent of Documents, US Government Printing Office, Washington, D.C. 20402.

Current Index to Journals in Education. Subscription $34.00. Purchase from CCM Information Corporation, 909 Third Avenue, New York, New York 10022.

"Eee Din Dit Ma Tun Weed": A Discussion of Teaching Reading to Young Exceptional Children

MARY B. LaCOSTE

Mary B. LaCoste teaches a primary class of educable mentally retarded children at Lakeside Elementary School, Jefferson Parish, Louisiana

■ "Teacher, Eee din dit ma tun weed," Edwin told me. His lips moved in exaggerated fashion to improve the sounds. After one repeat and some gestures, I understood that he had not yet had his turn to read, and I assured him he would not be overlooked.

Edwin, at seven, had been in my class for primary educable mentally retarded (EMR) children for one year. Despite his obvious speech handicap and intellectual limitations, he had succeeded in learning to read. His success in this area was paralleled by a change from a fearful withdrawn child to a class leader eager to participate in all activities.

I feel that Edwin's reading accomplishments and the resulting pride of his family and teachers was the key that gave the child the confidence in himself that was essential to his emotional growth, a confidence that had been badly damaged by years of being unable to talk understandably.

Edwin's story might be considered a typical occurrence in a special class for youngsters labelled "educable mentally retarded," except that typical occurrences are rare in classes for atypical children where individual differences are magnified.

In reading, this tendency to greater individual differences complicates the job of meaningful instruction to a serious degree, so serious, in fact, that some experts in the field feel that an EMR child below the age of nine is not ready to read and little effort should be expended in this direction.

After teaching six to nine year old EMR children for almost four years, I feel that this idea is faulty—that most of these youngsters can be successfully taught to read, and that we are cheating them if we don't try. However, in teaching young EMR children how to read, I have found it necessary to modify some highly accepted and popular instructional practices.

This article will describe those common reading practices which I have found questionable and have either abandoned or modified. It will also describe some of the techniques I have found help create an atmosphere conducive to overall language development. Although I will be discussing procedures I've used with young EMR children, the issues under discussion have relevance to individualizing reading instruction for all children, whether they have been labelled "exceptional" or normal.

Some Popular Instructional Practices Which are Open to Question

☐ *The use of reading groups.* First, the traditional practice of grouping does not work effectively with all young EMR children. The "one of a kind" uniqueness of learning characteristics that most of these children demonstrate frequently requires that different instructional methods and materials be used with each child in the class. The wide range of individual differences which

must usually be accommodated makes the use of group instruction impractical at best and inadequate at worst. The fact that many of these children are easily distracted by each other also militates against the use of reading groups.

The use of readiness workbooks. Much of the traditional readiness material available for use with these children does not appear to facilitate their learning to read. By "traditional," I mean the paper and pencil drills which require identifying likenesses and differences, indicating which of a series of identical items is different because it faces left whereas all the other items face right, tracing letters of the alphabet, matching pictures, geometric forms, and words, or finding words that rhyme. The content, format, and art work used in many of these drills make them difficult and frustrating for young EMR children. Even when modification of readiness materials makes it possible for more children to complete them successfully, this does not appear to forecast their success in reading.

I am reminded of one boy who, after extensive readiness sessions involving likenesses and differences, told me that he should put an "X" on his bus driver, Mrs. Wilkes, as she was the only one of our seven bus drivers who was a lady and so was "different." Perhaps he had been overtrained. Then there was the time I lost my manual and had to ask another teacher which owl *was* different on a readiness page.

Of course, readiness work in the broader sense of enriching a child's background to better enable him to read is important, in fact, essential, and should coexist with a good reading program.

Some of the commercial readiness kits which I have found helpful are the Ginn Company's Language Kit A, *Building Pre-Reading Skills*, and the Peabody Language Development Kits. Both provide the teacher with attractive, realistic materials which facilitate developing concepts, improving vocabulary, stimulating speech about meaningful experience, and teaching children to listen.

The use of the experience chart approach to reading. Recently I have observed that the much extolled experience chart is far less effective in improving reading ability than is the basal reader. On standardized reading achievement tests, my children consistently recognize more basal reader words than those frequently repeated words used almost daily in their experience charts. This is undoubtedly related to the fact that the introduction and repetition of new words is more easily controlled in basal readers than in experience charts.

I do think, however, that experience charts should be a part of the daily classroom experience, since they provide an excellent transition from the spoken

to the written word. They prepare children for learning to write and spell, and the children enjoy them.

The swing to linguistic based and high-interest, low-vocabulary readers. Many new reading series have been published in the past few years which represent a radical departure from the basal readers of the past. I have found the results disappointing. The "old-fashioned" basal readers I've used have been much more effective than some of the linguistic based readers I have tried. Perhaps Tom, Betty, their neat little white house, and their neat little Mommie may not appeal to the hep educator, but they seem to strike a responsive chord in the hearts of many EMR children under nine. Perhaps the reason for this lies not so much in the topical content of these old basals, but in their slow rate of new word introduction.

The linguistic readers I've seen present words in groups according to their sounds and spellings. Some start with consonant, vowel, consonant combinations and introduce sight words only when necessary to tell a story. Others start with vowel sounds and combine them with consonants to form words—e.g. "an-man, en-men." Most of these readers introduce new words too rapidly.

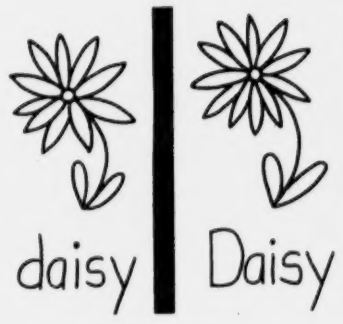
The problem with high-interest, low-vocabulary type books is that they tend to be designed to interest older children. Consequently, they offer no particular advantage to younger EMR children.

The early introduction of phonics. As with normal children, it is not necessary that EMR children know their alphabet symbols before beginning reading instruction. In fact, a child who learns them very well may have trouble with "See" not starting with "C" and will sometimes try to call words that start with "C" see.

In my experience, phonics should not be heavily stressed in connection with the words in the reading vocabulary of the beginning reader. As a part of total language development, preparation for spelling and word attack skills later on, it is fine, but it does not help the reading development of a child with a sight vocabulary of less than 100 words. It is difficult for the EMR to make abstractions and apply them in the manner which is demanded in a phonetic word attack.

It is better for young EMR children to learn their basic vocabulary by "the seat of their pants," so to speak, on the physical level. Associations between the object or its pictorial representation and the written word should be stressed. For example, "Cat" should bring forth the mental image of a feline —not a puzzle of the sound "at" preceded by the K-K sound to give "cat." Happy is the teacher whose student says "Daddy" when he sees the word

Modifying Instructional Materials and Teaching Techniques



Capital vs. Lower Case Words Can Cause Confusion.

Creating an Atmosphere Conducive to Language Development

"Father." Once the correct concept is associated with a written word, the rest is easy.

☐ *Using flash cards.* Flash cards help if not overused. Care should be taken that the style of print used on the flashcards is the same as the print in the book. The difference between a and *a* can cause confusion. Capitals can cause a problem, and usually a word starting with a capital and the same word starting with a lower-case letter have to be introduced as two separate new words. With flash cards, for example, it is useful to print "here" on the front and "Here" on the reverse side, so that the child will soon connect the two as the same.

Teaching connectives, articles, and auxiliary verbs. I have noticed that many young EMR children learn nouns and action verbs more quickly than they learn words that are connectives, articles, or auxiliary verbs. It seems logical that they remember words more easily when they conjure up a concrete picture. In overcoming these difficulties, it is helpful to learn whole phrases by sight, e.g., "Betty *and* Tom," "the apple," "he *can* run." This will help overcome problems with such words as "and," "the," and "can."

☐ As a practical matter, then, how is the teacher of the young special child to approach the task of teaching reading? An atmosphere conducive to good language development must be present.

Stimulating group discussions. The children should be encouraged to talk, talk, talk. They should have the stimulation of books, pictures, stories, and as much enrichment via records, films, language development kits, and the like that the teacher can possibly manage. Of equal importance, they should be encouraged to listen.

Alternating academic and nonacademic activities. Periods of academic work should not exceed 30 minutes and should be interspersed with periods of play, music, physical education, art, and other activities.

Providing for individual reading sessions. Once the learning environment is established, the teacher should begin formal reading by introducing his basal series. Large cards with the lead characters' names should be prepared. These can be compared with the students' names (a list of their names should be displayed somewhere in the room). The children will learn the names automatically. From then on reading should be on an individual basis using the basal text with methods used to suit the individual child.

For example, Johnny should be invited to sit next to the teacher at a time when the others are working quietly. (Obviously, only two or three children can be heard during one quiet period, so reading will have to continue on and

off throughout the day.) This should be a pleasurable time for the child, a time of shared confidences as well as reading instruction.

Rewarding the child's efforts. Praise should be as liberal as should the gold stars and the hugs and pats of approval. I remember one child who worriedly asked at the conclusion of a session, "Didn't I read good today?" It was because I had forgotten to pat him on the back after he read. To him this meant "Well done." Different children respond to different forms of approval, praise, and reward. Therefore, it is important to determine the most meaningful way to indicate your recognition of a child's efforts. It is equally important that recognition be honest and consistent.

Evaluating each child's learning characteristics. A meaningful description of how to evaluate each child's profile of skills and weaknesses would warrant an article dealing with this topic alone. Therefore, for a detailed description of evaluation, consult Smith (1969a, b).

Whatever the evaluative approach you prefer, it should be thorough, systematic, and lead to a specific plan of instruction. It should involve frequent ongoing evaluation and the revision of your instructional plan.

Planning individualized reading programs. Designing individualized instruction based on each child's interest and ability requires carefully selecting, or inventing, methods and materials to suit each child. It may also require the alertness to switch to a parallel book in another series if a child reaches a standstill.

Conclusion

☐ By giving each child who has been labelled "exceptional" an opportunity to learn to read at an early age, and by providing an atmosphere in which he has a good chance of success, we may provide him with a most valuable learning tool. More important, we may give the child faith in himself and in his abilities, a faith which may enable him to overcome his great handicaps.

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LAURA J. JORDAN, Department Editor

Classroom Techniques

Abstract: The author, from his experience as a regular classroom teacher and a prevocational counselor of retarded students in the junior high school, sees the problems of the educable retarded as part of the broader problem of educational disadvantage. He sketches the forces which have shaped the disadvantaged, the educationally relevant effects of that shaping, and the resulting conflicts between the goals of the junior high school and what it has actually provided for a large segment of its pupils. Suggestions for change are offered which focus on possible contributions of the staff of the community school.

Junior High School and the Disadvantaged: Time for Change

J. DANIEL RAYBON

> "In our time, the best definition I have is that a disadvantaged individual is born at the wrong time, in the wrong place, to the wrong parents, maybe of the wrong sex, and the wrong color . . ." (Carbine, 1969).

Defined in different ways by many different sources, an operational definition of the word disadvantaged has been hard to derive. This is a result of the inability to establish criteria for such an ambiguous group; one that is found in ghettos, slums, or other depressed areas. It is a group of human beings who sometimes lack integrity and self respect.

Sources of Educational Disadvantage

There are several ways to understand the disadvantaged. First, by specifying the direction of major concern; in this case *educational* disadvantage. Next, it is important to consider some of the symptoms and conditions common to this group.

Language and content of knowledge may differ from what is acceptable to the average American. This is probably because the disadvantaged sometimes form a separate community within American society; one that is isolated both geographically and psychologically. Residents are prevented from leaving their community due to poor health, lack of money, or perhaps psychological fear. They can also be separated from the mainstream of society by their attitudes and behavioral patterns and, if they are black, by their color (Boesel, 1969; Carbine, 1969).

The disadvantaged child often comes from a family where privacy is unknown, where family and neighbors may resort to violence for immediate solution to disputes, and where discipline through the use of force may be common. The child

from a disadvantaged background is very often: less verbal, more fearful of strangers, less self confident, less motivated toward scholastic achievement, less competitive in intellectual areas, less varied in his recreational outlets, and less knowledgeable about the world outside his immediate neighborhood.

He is not word bound and could be considered a physical learner—that is, he may have difficulty understanding a certain concept unless he can learn by doing it with his hands. The disadvantaged child's restrictive environment frequently causes marked deficiencies in listening, speech, reading, understanding social situations, and development of problem solving techniques (Baldwin, 1968).

The disadvantaged child may find some of the following present within his environment: a crowded, run down neighborhood, a home burdened with physical or mental illness, possible divorce or removal of family members, or a matriarchal family arrangement. He may find himself within the value structure of a white, middle class society. The socioeconomic condition of the disadvantaged may cause physical and emotional handicaps that isolate them from the benefits often taken for granted by the middle class which frequently extols such goals as a good job, social respectability and acceptance, and a home in the suburbs.

Effects on School Learning

Society has made it difficult for the disadvantaged individual to achieve middle class goals. As a result, the toughness, hostility, and indifference frequently exhibited by many of the disadvantaged are masks worn to hide anguish and insecurity (Fagan, 1968).

Insecurity finds its way into the school, further affecting the disadvantaged child and hindering him in his educational endeavor. It is the insecurity that comes from a feeling of unsafety—the precarious condition of the disadvantaged community whose daily bread is often not assured—and the dubious security of their future.

There is an overwhelming condition known as "educational unreadiness" which may deprive a youngster of his chance. This may be caused by low self esteem or self deprecation. A disadvantaged youngster may possess such a poor self image that he is unable to relate in a satisfactory way to others. His disapproval of himself could be strong enough to be academically disabling, perhaps causing failure during the preschool years to experience learning as a source of personal enhancement and a reward. Often during the preschool years and beyond this period, there is a paucity of verbal and other forms of informational feedback which might enable a child to be positively reinforced. A feeling of alienation from school and school personnel is another factor. The school is sometimes viewed as a foreign body; a power that seeks to create in its own image. The school and its personnel are strangers who often do not live within the confines of the community where the school is located. They are judged to be somewhat less than concerned about the total life of the community. Inadequate language facility is yet another factor. The vernacular of the ghetto is effective and easily understood in that locale. Taken out of that realm and into the classroom where other language patterns prevail, a communication problem is created.

A disadvantaged child may have a narrow range of both perceptual and conceptual knowledge. The kinds of experiences that tend to add dimension and depth to our lives as we grow are not usually available. He has had few experiences with new things and people outside his own community.

Community differences in values and attitudes can also cause educational un-

readiness. The disadvantaged community is built on immediate need gratification. The disadvantaged person wants housing, employment, and educational benefits now. Past experiences of many disadvantaged families have shown them they should not plan too far ahead, because of the uncertainty and instability in the present.

Methods of satisfaction are often at variance, if not actually incompatible (Karnes, 1961). The disadvantaged child may seek his satisfaction in physical and impulsive acts, often placing him at odds with the nonviolent, deliberative elements that may dominate a classroom. He relates to the school as he relates to the neighborhood, where spontaneity and physical confrontation may be the rule rather than the exception.

In short, the personality structures of the disadvantaged learners are frequently incompatible with the objectives, expectations, and strategies which characterize most urban schools.

The data on general intelligence, mental abilities, and school achievement all give indication that general learning is clearly associated with socioeconomic status. The level of learning is generally lower for children of most minority groups and children of low socioeconomic status (Stodolsky & Lesser, 1967).

Problems Inherited and Complicated at the Junior High Level

Disadvantaged students encounter problems in the junior high school. It is interesting to note what can occur at this crucial level.

Information about the junior high school is meager, but somewhat revealing of its traditional characters and roles. Established over 50 years ago, it came into being because of a common concern about large numbers of pupils dropping out of school at the end of the sixth and eighth years. Children had difficulty adjusting from elementary to senior high, and the elementary schools were unable to provide outlets for physical and psychological needs (Noar, 1961). To further its goals, advocates outlined such principles as articulation, exploration, educational guidance, vocational guidance, and activity as necessary parts of the junior high school curriculum.

Much heated discussion ensued as the concept of the junior high received more national publicity. There were efforts to strengthen what the junior high could offer, ultimately leading to the graduation of young people having a sense of self worth and an enhanced understanding of others; a genuine interest and competence in several areas of learning; acquaintance with the vocational world; and mastery of basic skills of inquiry and study so that independent work could be pursued more adequately (Curry, 1969; Noar, 1969).

The decade of the 1950's was a time of far reaching proposals and implementations in the junior high. The concept grew slowly at first, then more quickly, but never reaching the breadth of its founding proposals or encompassing the real needs of the disadvantaged in its educational programs. There was, however, an increased interest in guidance and counseling, in prevocational orientation, and education for the exceptional child.

Today, the junior high schools seem to have failed the disadvantaged—both white and black—and yet they have not changed the basic function of the schools as a selector of winners and losers in society. In virtually every study since that of the Chicago schools made in 1898, more disadvantaged children have failed in school than have succeeded (Greer, 1969). Serving all children and graduating them with salable skills has applied to all but the disadvantaged.

There has been a lack of effective ad-

ministrative response. Administrators have not yet sought to implement data found in the Coleman study which stressed the importance of the individual student's ability to feel that he has some control over his own destiny (Cunningham, 1969). This feeling can hardly be engendered in pupils as long as administrators symbolize intransigence and rejection of the pressing needs of disadvantaged children.

Junior high teachers may have felt helpless, leaderless, and at a loss. They have been conditioned to operate within traditional frameworks, follow daily routines and rituals, and adhere to rules and regulations without questioning them. When approached with a problem demanding immediate attention, the teacher has often sought conventional techniques with the disadvantaged child, only to find them ineffective. Sometimes the teacher's response has been to remove the disturbing student from the class or to seek other methods of ostracism.

Other students may judge the disadvantaged as undesirable. Communication between the groups is then stifled. The disadvantaged, except in their own peer groups, are somewhat like educational lepers exposed only to a curriculum that is archaic, outmoded, hostile, irrelevant, and unimportant; where help often comes in the form of meaningless tokens and rewards.

Directions for Change

It seems ludicrous to talk of the problems of the disadvantaged youngster in the junior high school without addressing oneself to the need for effective school community relations. It is possible to increase the amount of communication and information between the home and the school (Hicke, 1969). Through Title I and other programs created to meet the needs of impoverished areas, it has been shown that the community can be involved. The schools have become centers of community activity. The hours are no longer 9 to 3:30, but as long as it takes to accomplish a task. Community members have come into the schools to help as teacher aides, assistants, and volunteers. This in turn has served to strengthen school community ties.

Traditional educational policies are being seriously challenged by a new concern—militancy. Parents and community members are demanding to be included in school planning, in their children's school lives, and certain services for the community.

Administrators could begin arguing for complete building level autonomy. The principal or faculty might run the show without more concern for the central powers than for the needs of their own student body. They could also make available areas of study which are relevant to the student body regardless of the curriculum guide. If the administrator could select his own staff with some help from a community board and utilize recognized community leaders in the school program, the school might begin to win some converts among the disadvantaged. A real effort could be made to bring together a problem solving group consisting of all interested persons. Utilizing all available aids, social services, cultural, and entertainment attractions could be quite worthwhile and instituted as early in the grades as possible. By breaking up such rigid patterns as compulsory attendance, and quarter or semester grades, more time could be devoted to finding out who a student is, what he wants, and what his interests are.

Curriculum changes are needed to make a disadvantaged youngster's education more relevant. Curriculum planners must utilize material from all economic and ethnic backgrounds. Gordon (1969) suggests that the poverty stricken child needs to lear
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child needs to learn to read, but not about a middle class world in which he cannot even imagine himself.

Counseling services are needed to meet the need for matching programs with individual needs and for relevant dialogue about the problems that confront junior high students. Counselors must meet the needs of all students, not just those who seek counsel.

If the disadvantaged are to have a chance, then the junior high system must be overhauled, sensitizing the staff to the problems of the handicapped, and implementing seminars and institutes on updated approaches and curriculum. The following could serve as underlying objectives: the fostering of enhanced self concepts; establishing an environment where wholesome human relationships prevail; initiating learning environments which are built around real and culturally significant problems. These could be further broken down as the teacher in the junior high looks at some of the possible characteristics that he should possess: respect for all pupils as human beings; knowledge of the fact that an IQ score is not always an accurate measure; ability to make a real distinction between capacity for achievement and present production; recognition and understanding of the reasons underlying the possible unwillingness, inability, and lack of motivation of a disadvantaged child; and the ability to help learners see themselves as worthy persons and to see themselves as important among the forces that determine their destiny.

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ROBERT E. ROACH
C. J. ROSECRANS

Verbal Deficit in Children with Hearing Loss

Abstract: This study was designed to explore the relation between language and/or verbal ability and reduced auditory acuity at discrete frequencies and various frequency bands in children with high frequency impairment. Correlations reveal significant relationships between reduced hearing levels at 1,000, 1,500, 2,000, and 3,000 cps and lowered verbal ability as measured by the Wechsler Intelligence Scale for Children.

SEVERAL authors have explored the effect of partial hearing loss, mild to moderate auditory impairment, etc. on the language development and verbal skills of children. Harrington (1965) stated:

> A reduction in sensory input because of impairment of the peripheral sensory mechanism deprives the child of basic percepts upon which language is built. . . . Of all the perceptual processes, hearing is considered the most important, for language is primarily auditory [p. 192].

Nober (1966) specified the 500-2,000 cps range as critical for speech intelligibility and declared that hearing loss in this frequency band affects speech communication. Young and McConnell (1957), using the 500-2,000 cps range as the most critical band, compared the vocabulary level of hard of hearing children to that of normal hearing children. They required their subjects to have an average hearing level greater than 30 dB (ASA). The mean hearing level was 51 dB with a range from 30 to 75 dB. They concluded that mild to moderate losses resulted in significant retardation in language functioning. Streng (1958) reported that the child with a loss of 40 to 50 dB (ASA) would be deficient in verbal skills. She felt that the child with a mild loss would not suffer a language handicap. However, Streng mentioned that a great loss in higher frequencies (3,000 cps and above) would affect the child's speech. McConnell (1951) felt that the major frequency components of speech sounds appear in the 512-2,048 cps range. He stated that if hearing loss is present in the higher range the child often misunderstands. Kodman (1963) used the speech reception threshold (SRT) as his measure to acuity when evaluating the school progress of the hard of hearing. He selected pupils whose SRT was between 20 and 65 dB (ASA) and found them to be educationally retarded from 1.0 to 2.24 years. Concern for children with "small" hearing losses and their reduced progress was expressed by Whorton (1966). She stated that specialized help is needed at an early age. On the other hand, the school adjustment of children with "minimal" losses was evaluated by Reynolds (1955) and compared with normal hearing children. The average hearing level of his population was 21 dB (ASA) and he concluded that

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children with minimal losses adjusted to school as well as normal hearing children.

In addition to McConnell and Streng, however, several other authors have addressed themselves to the problem of the child with high frequency hearing loss. Duffy (1966) pointed out that these children hear the low sounds of speech (vowels) satisfactorily, but do not hear the higher weaker sounds (consonants). He stated that they are retarded in acquiring language and speech. Studebaker (1968) in discussing the hearing problems of school children also stated that the most important frequencies for understanding speech are in the 500-2,000 cps range. However, he also noted:

> In certain situations, particularly those encountered in school, this range does not extend high enough. When the child is unfamiliar with the words or concepts, or both, 3000 to 3500 cps is a more reasonable upper limit of the frequencies needed for normal functioning [pp. 192-193].

Studebaker felt that the 4,000 cps notch was not by itself a handicap. While not directly concerned with high frequency loss in children, Schubert (1958) when evaluating discrimination tests (PB) found that a number of words correlated strongly with the amount of loss at 2,000 and 4,000 cps. No such correlations were found between any words and the amount of low frequency loss.

Of all the literature reviewed, none presented objective data on the relationship of hearing levels at discrete frequencies or bands of frequencies as they relate to language status of children with reduced auditory acuity, particularly for higher frequencies. This study was designed to explore the relationship between language and/or verbal ability as measured by a standardized intelligence test and reduced auditory acuity at discrete frequencies and for various frequency bands in a population with high frequency impairment.

Subjects

Data were obtained on referrals from the local public school hearing conservation program. Subjects ranged in age from 6 to 15 years with a mean of 10.33 years. All selected subjects were Caucasian to reduce the effect of extraneous variables such as educational and/or sociocultural differences.

There were several other criteria for selection of subjects. The audiogram for each subject, composed of the best of the binaural response at each frequency, was required to show a sensorineural hearing level at, at least, one lower frequency not poorer than 25 dB (ISO) and a sensorineural hearing level at, at least, one higher frequency greater than 25 dB (ISO). Each subject's score on the *Wechsler Intelligence Scale for Children* (WISC) had to be 90 or better for performance scale IQ and 120 or less for the verbal scale IQ. These parameters were felt to decrease test variability while insuring average range coverage (IQ 90-110). They also allowed extra weight against the hypothesis in providing for higher verbal ability than performance ability on this test. Difference scores on the WISC (verbal scale minus performance scale) were used to reflect verbal-vocabulary-language deficits. Individual audiometric and WISC examinations were administered to the subjects at the Medical School's Hearing Clinic by experienced staff using the usual instructions and procedures. Hearing deficit was not an obstacle to understanding the task required by the WISC.

Satisfying these criteria resulted in a population of 31 subjects. The actual age of onset of hearing loss could not be determined with any accuracy. Case history information revealed one child suspected of hearing impairment at age 2 years. The hearing losses of the remainder of the pupils either were not identified or were suspected at 4 years of age or older. The socioeconomic level of the families was not identified, although selection of subjects was on a serial and random referral basis providing only that they met the criteria stated above. Three of the students had received speech therapy, 10 had possessed hearing aids, and 5 of these had received varying amounts of auditory training, speechreading, and speech therapy. The remaining 18 subjects had not previously been identified as having reduced auditory acuity.

The group means and standard deviations of hearing level (per frequency) in-

TABLE 1

Group Means and Standard Deviations of Hearing Level ($N = 31$) and of Intelligence and Age Variables

	Hearing level (Frequency)							*WISC*		*Performance-verbal*	
	250	*500*	*1,000*	*1,500*	*2,000*	*3,000*	*4,000*	*VIQ*	*PIQ*	*IQ difference*	*Age* [a]
Mean	14	20	27	33	38	49	45	89.35	105.87	−16.52*	10.33
SD	9	15	20	22	24	17	14	12.19	9.23	11.02	2.36

[a] Age range was 6 to 15 years.
* $p < .001$.

telligence test scores and age are presented in Table 1. It will be noted that as frequency increased, hearing levels became progressively poorer (up to but not including 4,000 cps), thus satisfying the definition of "high frequency hearing loss" for the test population. Distribution was fairly normal with the standard deviation resulting from variability on both sides of the mean at each frequency.

Results

Correlation between mean hearing loss (1,500 to 4,000 cps) and verbal IQ was −.53 ($p < .01$) and r between hearing loss and performance IQ was .03 (not significant). The effects of high frequency hearing loss and the verbal and performance IQ difference score were clearly related to the verbal IQ deficit and not performance IQ. Product-moment coefficients between audiometric thresholds and the discrepancy between the performance IQ and the verbal IQ on the WISC (WISC difference score) were obtained. In all but 2 of the 31 cases this procedure resulted in a negative value. A finding of consistently higher performance than verbal IQ scores within the average intelligence range (actually 29 of 31 instances) has a p value of .001.

As noted in Table 2, the mean of all thresholds for each subject correlates −0.60 with the resulting WISC difference score at a significance level of <.001. There was a substantial relationship between thresholds and WISC difference scores when inclusive frequencies from 250 through 4,000 cps were considered. However, such relationships were also evidenced for all frequencies except 250 cps when each was independently correlated with the results of the WISC. Of particular interest were the correlations obtained at 1,500, 2,000, and 3,000 cps which were significantly high ($p < .001$). Also, the correlations occurring at 500 and 4,000 cps while modest, nevertheless reached a p of .05 and .03 respectively. Thus, all these frequencies influenced the verbal IQ scores, but the high correlations of frequencies of 1,500, 2,000, and 3,000 cps suggest a major impact of hearing loss in these frequencies on verbal-language facility. A multiple correlation of −.80 ($p < .001$) resulted from frequencies of 1,000, 1,500, and 4,000 cps and the WISC difference scores.

The cumulative effects of loss for progressively higher frequences were obtained by calculating the composite mean of sequential frequency bands and relating them to the WISC difference scores. The results are presented in Table 3. It will be observed that as the frequency band includes progressively higher frequencies, the correlations consistently increase and readily demonstrate the cumulative influence of these higher frequencies on reduced verbal IQ.

TABLE 2

Correlation Coefficients of Mean Thresholds and WISC Difference Scores

	Frequency							
	250	*500*	*1,000*	*1,500*	*2,000*	*3,000*	*4,000*	*250–4,000*
r	−.13	−.36	−.44	−.63	−.61	−.63	−.39	−.60
p	NS	.05	.02	.001	.001	.001	.03	.001

TABLE 3

Correlation Coefficients Between Composite Means of Sequential Frequency Bands and WISC Difference Scores

	Inclusive frequencies					
	250–500	*250–1,000*	*250–1,500*	*250–2,000*	*250–3,000*	*250–4,000*
r	−.29	−.37	−.48	−.53	−.57	−.60
p	NS	.05	.01	.005	.001	.001

The highest correlations between the thresholds and the WISC difference scores were obtained when the composite mean of 1,000, 1,500, 2,000, 3,000, and 4,000 cps and the WISC difference for each subject were related. When this was done a correlation of −0.66 ($p < .001$) resulted.

As mentioned earlier, 18 of the 31 children in this study did not receive special help. In most instances, the hearing was considered functionally normal. The remaining 13 subjects were not only identified as having defective hearing, but received assistance in communication (speechreading instruction, hearing aids, auditory training, and speech therapy).

In order to determine whether or not the special assistance received by a portion of the students had undue influence on the findings of the study, those receiving assistance (assisted group) were compared with those not receiving assistance (unassisted group).

The auditory thresholds of the assisted group were significantly poorer than those from the unassisted subjects at all frequencies except 4,000 cps ($p < .01$ to $.001$). The mean hearing level (all frequencies) of the former group was 45 dB while that of the latter was 25 dB.

The performance intelligence quotient (PIQ) from WISC indicated the intellectual level of the pupils in each section to be equivalent (PIQ of assisted group = 106.4; PIQ of unassisted group = 105.4; PIQ groups combined = 105.9). However, comparison of the verbal intelligence quotients (VIQ) of the assisted and unassisted students revealed major differences in verbal facility. The assisted group VIQ was significantly poorer than that of the unassisted pupils (VIQ of assisted group = 83.24; VIQ of unassisted group = 93.77; $p = .005$).

Meaningful correlations were obtained between hearing levels at several frequencies and the WISC difference score in each group. For the unassisted group, p ranged between .05 to .02. Correlations for the unassisted group were: −0.52 for 1,500 cps, −0.44 for 2,000 cps, and −0.47 for 3,000 cps. For the assisted group the significant p value ranged from .06 to .01 with the following correlations: −0.50 for 2,000 cps, −0.70 for 3,000 cps, and −0.67 for 4,000 cps.

In spite of the limited number in each group, the effect of hearing loss on verbal structure is evident not only in pupils with moderately reduced hearing in higher frequencies but is even evidenced in children with hearing levels that are often not considered to be handicapping.

Thus, the information resulting from comparison of hearing levels and WISC results obtained from students receiving assistance in communication and those getting no help provides even stronger corroboration of the thesis developed in the full study, i.e., high frequency hearing loss of even mild to moderate degree contributes a deleterious effect on verbal-vocabulary-language development.

Discussion

The results showed significant relationships between hearing levels, particularly at 1,000, 1,500, 2,000, and 3,000 cps, and verbal deficit as measured by the WISC. When impairment at these frequencies occurs before or during the language learning years (0-5) and is of sufficient severity to interfere with the reception of speech, there are several considerations.

1. A school group IQ test that is highly verbal-vocabulary dependent may result in a spuriously low IQ score. Such a re-

sult may influence teacher judgment and affect the teaching procedure.

2. Reduced verbal skill can adversely affect academic achievement.
3. Misunderstanding of content of oral communication and the frustrations resulting from such failures may negatively influence social and emotional development. The child may tend to withdraw from group activities and thereby fail to profit from interaction with his peers.
4. Early identification of the child with loss for high frequencies is necessary so that remedial procedures may be instituted. Unfortunately, if the loss has been present for most of his life, the child may be unaware that he hears differently from his peers. Also, such children are seldom detected by observation. Because they "hear" (vowels) normally, their inconsistency in understanding speech (failure to hear consonants adequately) may yield an impression that they are merely slow or inattentive.

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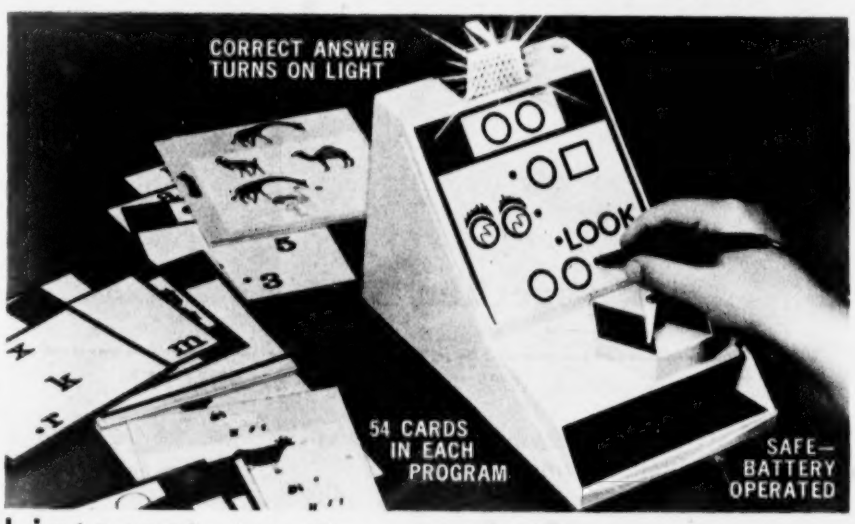
MAKES LEARNING FUN!

Develops reasoning and memory senses



Holds attention and interest

Colorful Tutorgram cards hold the attention of the child for long periods. Learning becomes a game with a "reward" for the right answer. The child has a feeling of pride and accomplishment as he inserts the Tutorgram pointer in the correct spot to turn on a light and sound a buzzer. Each card offers a multiple choice of answers to the question pictured at the top of the card. There are fifty-four cards in each set covering three subjects or categories. When a card is placed on the electro-visual instrument, the child puts the electro pointer into a hole punched in the card. Only if he chooses the right answer will the light and buzzer respond.

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CEC Information Center
on Exceptional Children

An Educational Resources Information Center

MEMBER OF THE SPECIAL EDUCATION
IMC/RMC NETWORK

EXAMPLE 16

In reply to your recent request for career and/or financial aid information, the following literature has been enclosed:

Careers in Special Education. Council for Exceptional Children, 1411 Jefferson Davis Highway, Suite 900, Arlington, Virginia 22202.
"A Selected Guide to Public Agencies Concerned with Exceptional Children." Exceptional Children Bibliography Series, June 1971, No. 658. Descriptions of agencies and organizations include functions, services provided, and subsidy of research, scholarships, and training.
Scholarship Program Education of Handicapped Children, Summer session, 1971 Academic Year 1971-1972. Division of Training Programs, Bureau of Education for the Handicapped, U. S. Office of Education, Washington, D. C. 20202. Includes types of scholarships available and eligibility requirements. Lists participating institutions and agencies and includes exceptionality areas of programs offered at each college.

You may also wish to obtain these publications:

Special Education Teacher Education Directory, 1968-1969. The Council for Exceptional Children, 1411 Jefferson Davis Highway, Suite 900, Arlington, Virginia 22202. $2.50. Special education training programs in higher education are listed in three indexes: school index lists university programs by state and provides number and names of faculty and number of students, level of study available in each exceptionality area; personnel index provides brief biographical listings for all special education faculty; program index is a cross reference list to identify schools offering degree and/or certification in particular areas of study.

Opportunities for Professional Preparation in the Field of Education of Retarded Children. National Association for Retarded Children, Inc., 420 Lexington Avenue, New York, New York 10017. $1.00. Lists colleges and universities having programs in mental retardation. Includes state certification requirements.

A Manual on Certification Requirements for School Personnel in the United States, 1970 Ed. by T. M. Stinnett, National Education Association, 1201 Sixteenth Street, N. W., Washington, D. C. 20036. $6.00. Comprehensive manual including summary of preparation-certification-standards, certification requirements for teachers, supervisors, administrators, and special school service personnel (by state), guides to securing teaching positions in the U. S. and abroad, and teacher education institutions and approved programs (by subject field.)

THE COUNCIL FOR EXCEPTIONAL CHILDREN
JEFFERSON PLAZA SUITE 900
1411 SOUTH JEFFERSON DAVIS HIGHWAY
ARLINGTON, VIRGINIA 22202

Sources of Information on Student Aid. November 1968. Research Division, National Education Association, 1201 Sixteenth Street, N.W., Washington, D.C. 20036. $.25. Scholarships, fellowships, grants-in-aid, and loans available from both public and private sources are listed with eligibility requirements. A 39-item reference list is included.

Student Financial Aid in the United States: Administration and Resources by Rexford G. Moon, Jr. College Entrance Examination Board, Box 592, Princeton, New Jersey 08540. 53 pages, 1963. $2.00. Summary of general information on the primary public and private sources of financial assistance for college students. Bibliography included.

Need a Lift?. Fall, 1970. The American Legion Educational and Scholarship Program, The American Legion, Department S., P.O. Box 1055, Indianapolis, Indiana 46206. $.50. An annually revised handbook to assist students, parents, and counselors to secure current information on careers and scholarships.

The Most Important Thing in the World. National Easter Seal Society, 2023 West Ogden Avenue, Chicago, Illinois 60612. $.25. Describes the following career areas in rehabilitation: physical therapy, occupational therapy, speech pathology, audiology, special education, counseling, medical social work, recreation therapy, nursing, and psychology.

Career Opportunities in the Field of Mental Retardation. March 1969. Secretary's Committee on Mental Retardation, 330 Independence Avenue, S.W., Room 5527B. Washington, D.C. 20201. Provides information about 33 different careers in working with the mentally retarded. A brief description of each career is given along with education and training requirements, financial assistance and sources of additional information. Includes both careers requiring no specific formal training and careers for which specific training is needed.

Occupations in the Care and Rehabilitation of the Mentally Retarded. U.S. Department of Labor, 1966. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. $.35. Describes a number of occupations in terms of (1) definition, (2) education, training, and experience, and (3) worker trait requirements. Also includes some background information on mental retardation.

For Your Consideration...Five Ca reers. The American Foundation for the Blind, 15 West Sixteenth Street, New York, New York 10011. Describes five careers working with the blind: social work, rehabilitation teaching, vocational rehabilitation counseling, teaching blind and visually handicapped children, orientation and mobility instruction.

In addition, you may wish to contact individual colleges and universities who will supply information on training and financial assistance programs, and your state director of special education who can provide state teacher certification requirements and information on financial aid.

Yours truly,

xxx

CEC Information Center
on Exceptional Children

EXAMPLE 17

An Educational Resources Information Center

MEMBER OF THE SPECIAL EDUCATION
IMC/RMC NETWORK

You recently requested information about teacher aides in the special education class. Generally, the role of the aide is to assist the teacher with classroom activities and management. However, the use of teacher aides and the requirements for their training vary widely from one school district to another. To obtain accurate, specific information on opportunities for teacher aides in your area contact your local and state directors of special education. The State Director of Special Education is:

The following enclosed materials provide some information on the role of the teacher aide and the nature of exceptional children.

Blessing, Kenneth R. "Use of Teacher Aides in Special Education: A Review and Possible Applications." Reprinted from Exceptional Children, Vol. 34, No. 2, pp. 107-113.

Careers in Special Education. Council for Exceptional Children; 1411 South Jefferson Davis Hwy., Arlington, Virginia 22202.

You may also wish to obtain material from PREP Kit #12 issued by the Department of HEW, Office of Education Dissemination. For more information on the Kit and its availability please see the enclosed flyer.

Yours truly,

THE COUNCIL FOR EXCEPTIONAL CHILDREN
JEFFERSON PLAZA SUITE 900
1411 SOUTH JEFFERSON DAVIS HIGHWAY
ARLINGTON, VIRGINIA 22202

APPENDIX C

DIALOG Manual

USERS MANUAL
ERIC/DIALOG ONLINE
RETRIEVAL SYSTEM

6-81-70-5 Revised August 1971

Developed by:
Information Sciences
Lockheed Palo Alto Research Laboratory
LOCKHEED MISSILES & SPACE COMPANY
A Group Division of Lockheed Aircraft Corporation
Palo Alto, California 94304

FOREWORD

Project DIALOG is the culmination of 6 years of research in information storage and retrieval conducted by the Information Sciences Laboratory of the Lockheed Palo Alto Research Laboratory. The DIALOG system offers the user an interactive command language with which he can direct the data processing power of a computer to assist him in the retrieval of information. The current version of DIALOG has evolved from the operational experience of several data bases, and has proved both easy to operate and powerful in results.

By eliminating intermediaries and placing the user in direct communication with the computer, results are available in seconds or minutes instead of days or weeks, and interesting avenues of exploration suggested by preliminary results can be pursued without time lapse. DIALOG commands provide means for describing a search interest to the computer, for obtaining displays (and printouts) of results, and for redefining a search interest based on examination of intermediate results. By dynamically partitioning the information store, the user can rapidly and efficiently converge on a relevant set of documents.

In the current application, the DIALOG retrieval language is applied to the total ERIC data base which includes:

- Research in Education (RIE)
- Current Journals in Education (CIJE)
- Current Project Information (CPI)
- Pacesetters in Innovation (PACE)
- Field Reader Catalog
- Exceptional Child Educational Abstracts

Questions and/or comments regarding this project should be forwarded to C. Hoover, U.S. Office of Education, Department of Health, Education, and Welfare, Washington, D.C., 20202. Additional information regarding the DIALOG online retrieval system can be obtained from R. K. Summit of the Lockheed Palo Alto Research Laboratory, Palo Alto, California 94304.

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Section 1

ERIC/DIALOG DESCRIPTION

DIALOG is an interactive information retrieval language which allows the user to formulate simple or complex search requests via a video/keyboard display terminal (Fig. 1) which is coupled to a computer containing the material to be searched. To use DIALOG, the user enters desired commands such as BEGIN, SELECT, DISPLAY, or PRINT, etc., by depressing keys on the keyboard. The computer responds by displaying various data on the display screen. DIALOG is simple to use, and no understanding of computers is required.

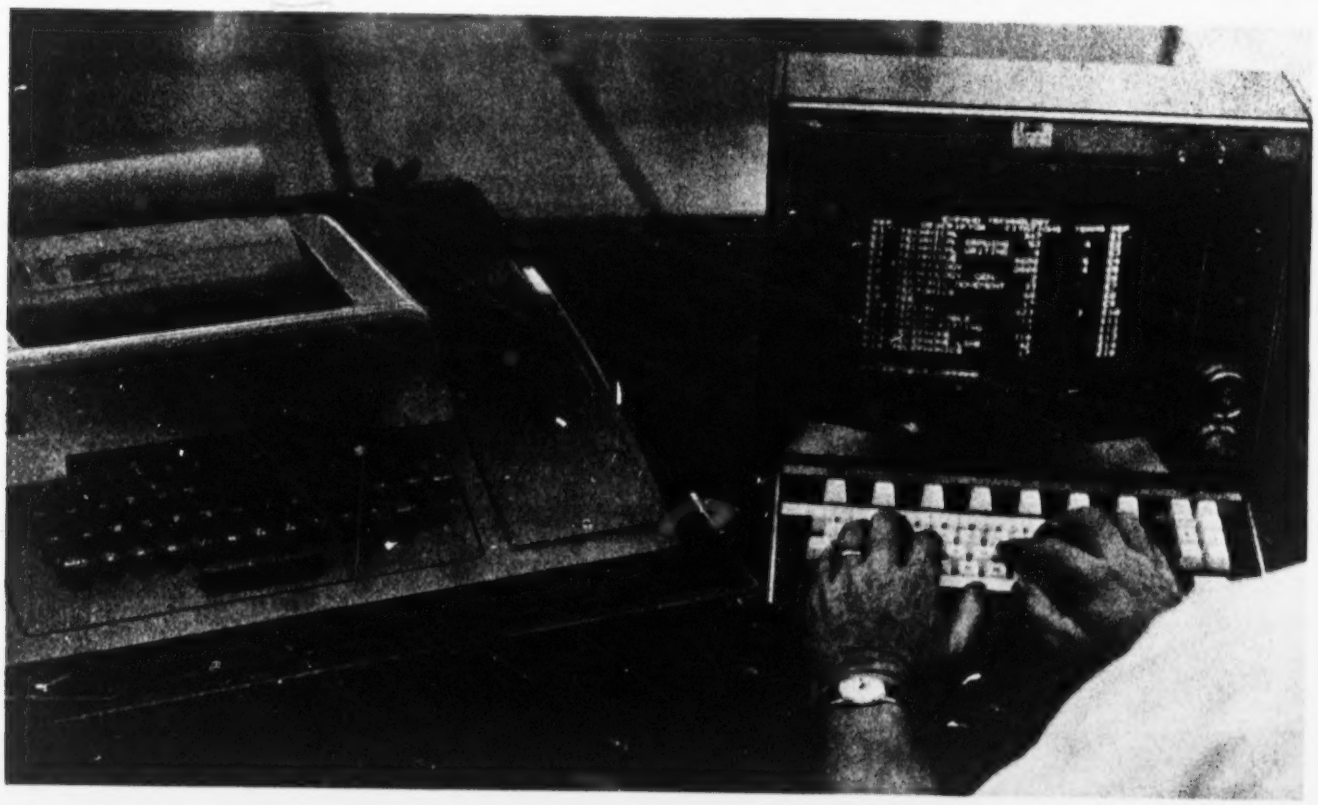


Fig. 1-1 Video Keyboard Display Terminal

1.1 THE DIALOG KEYBOARD

Figure 1-2 is a detailed view of the DIALOG keyboard.

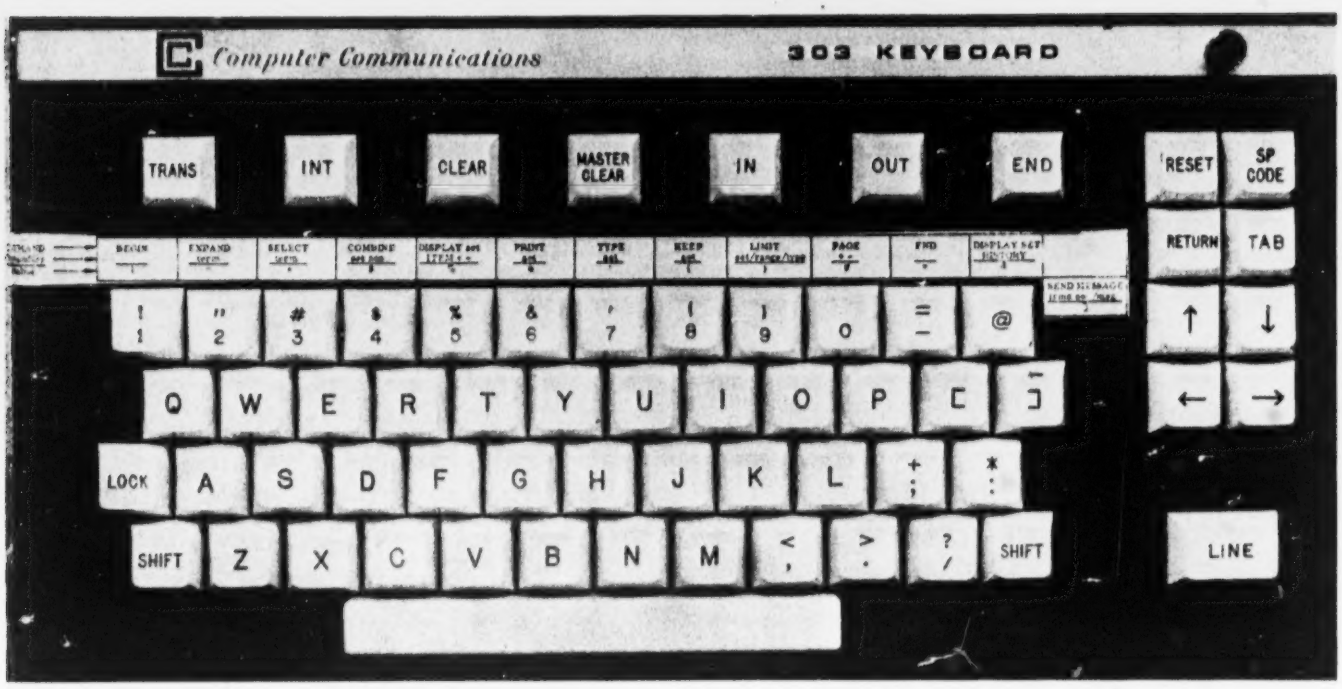
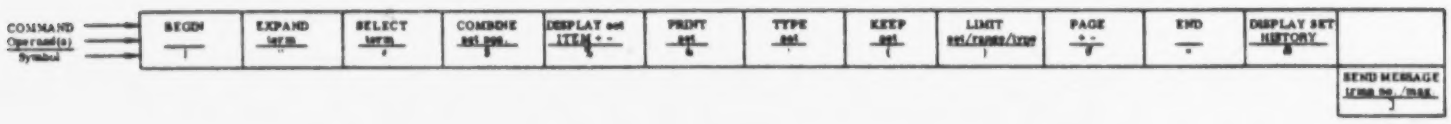


Fig. 1-2 Display Keyboard

The top two rows of keys are mainly for the purpose of commanding the computer to perform desired actions. These are function keys. The three bottom rows, containing the letters of the alphabet and certain familiar punctuation marks and symbols, together with the usual shift keys, shift lock, and spacer, are the DIALOG user's means of expressing his part of the dialog with the computer.

It is important to recognize that the row of number keys has a double function. When the shift key is pushed down – and only then – each one of these keys is used to initiate the printed command located directly above it on the strip of paper pasted to the keyboard. This is how the strip of commands looks:



When the shift key is not pushed down, these keys can be used for their conventional purpose of typing numbers.

Only a few of the other labeled keys are used. TRANS is used to send all data to the computer. MASTER CLEAR is pressed to enable the keyboard, which is enabled only when the little blue light in the upper right-hand corner is on. Should this light go out for more than 1 minute, the user should press MASTER CLEAR and then TRANS, twice in succession. The arrow keys are used to position the cursor (a small point of light on the screen which indicates where the next letter will appear). If a typing error is made, the user should press the left arrow (which acts as a backspace key) to position the cursor at the point of the error. He can then correct erroneous characters by typing in the correct letters which will replace the previously entered material.

1.2 HOW TO ENTER A COMMAND

The user communicates every command by performing the following three steps:

1. Depress desired command key (while holding down the SHIFT key). The command symbol will immediately appear on the display screen.
2. Key in appropriate operand data. These data will appear on the screen following the command symbol. (Note: up to this point, an erroneous entry may be corrected by back-spacing – using the left arrow key – and typing over undesired data.)
3. Depress the TRANS key. This action signals the computer that the user has a message to transmit.

The computer reacts by reading and processing the command message. A reply will always return on the console printer (which serves as a search log) or, depending on the command, on the display screen.

To select the index term computers, for example, the following operations would be performed.

Step		Keyboard (See Fig. 1-1)
1	Depress (with SHIFT key depressed):	SELECT / term / #
2	Type in:	IT=COMPUTERS
3	Depress:	TRANS

This entry sequence causes the following response to be typed out on the console printer (Fig. 1-1).

SET NO.	NO. IN SET	DESCRIPTION OF SET* (+=OR, *=AND, -=NOT)
1	311	IT=COMPUTERS

In other words, the 311 items indexed by the index term COMPUTERS are assigned a set number (i.e., "1") which can be used for referencing this group of items in later commands. "IT=" is a descriptor-type code meaning index term. As a matter of convenience, "IT=" can be omitted when typing in index terms. Other descriptor type codes such as "AU=" (author), "CN=" (contract number), etc., must be included with the desired descriptor (Section 4).

---

*Note: This heading information results from having entered the BEGIN command which is described in detail in Section 2.

Section 2
COMMAND DESCRIPTIONS

There is a total of 13 commands in the present version of DIALOG described in this section. It is not necessary to understand all of these commands to conduct a search. In particular, a minimum understanding of SELECT and PRINT allows one to print out the citations associated with any single descriptor (e.g., all citations indexed by MATHEMATICS). Another command, COMBINE, allows one to obtain citations containing combinations of descriptors, such as citations indexed by both MATHEMATICS and ELEMENTARY EDUCATION. Other commands allow the user to display citations and abstracts, to display the index, to set aside selected citations, and to perform administrative operations such as to log on and off, and to send messages to other terminals. There are only five essential commands:

- EXPAND
- SELECT
- COMBINE
- DISPLAY
- PRINT

These commands should be well understood and should be practiced at the terminal. The subsection numbers containing descriptions of these commands are asterisked as a reminder of their importance. The casual reader can largely ignore the other commands as they are used principally to supplement these five basic commands.

Although commands are actually entered by depressing the key below the command label (Fig. 1-2), the label will be used from here on to refer to the command. In what follows, to enter a command means to press the command key, to type in the desired entry, and to press the TRANS key.

Section 3 contains some practice searches to which the reader may wish to refer for clarification of command usage. The reader will note that the remainder of this section contains many actual search examples to illustrate the use of commands in context. The examples tend to cumulate commands introduced to a particular point and serve to review the use of earlier commands.

2.1 BEGIN

In a typical search, the user's initial move is to let the computer know that he is ready to begin. After depressing the shift key and holding it down, he presses the key immediately below the command BEGIN. In response, the computer displays the following message on the television screen:

PLEASE ENTER THE FOLLOWING INFORMATION
PRESS 'TRANS' FOLLOWING EACH ENTRY
SEARCH TITLE
NAME OF PERSON CONDUCTING SEARCH
NAME OF PERSON RECEIVING RESULTS (IF DIFFERENT)
MAIL ADDRESS
THE FOLLOWING FILES ARE AVAILABLE FOR YOU TO SEARCH
1--ERIC RIE AND CIJE
2--CURRENT PROJECT INFO. AND PAGE
3--FIELD READERS
4--EXCEPTIONAL CHILDREN FILE
5--
ENTER NUMBER OF DESIRED FILE

The user types in the requested replies, line by line. No reply should be left blank – type in SAME or NONE as appropriate. He presses TRANS following each reply to communicate the information to the computer. The last reply selects the file to be searched. These files are discussed in Section 4.

These data are saved in the computer for the duration of the search and are printed out as a heading to any printed output. In this way the computer operator knows where to mail the results. The log-in procedure may be bypassed by pressing BEGIN and typing in BYPASS (or simply "B"). In this case only the heading shown below will be typed out, and normally file 1 (above) is automatically selected.

Either way, after the last reply the computer responds by typing out the requested information and the following heading on the console typewriter:

SET NO.	NO. IN SET	DESCRIPTION OF SET (+=OR, *=AND, -=NOT)
----	-------	----------

The search proper is now ready to begin.

2.2 EXPAND

EXPAND
term
"

Depression of the EXPAND key and entry of a term cause a display of descriptors that are alphabetically close to the entered term. With each descriptor is shown the number of citations in which the descriptor appears (under "CIT") as well as the number of conceptually related terms (under "RT") which are available as descriptors. Each display descriptor is numbered (E1 through E16 – E for EXPAND) or SELECT (section 2.3) commands. EXPAND MATHEMATICS* produces the following display.

*EXPAND IT=MATHEMATICS would have produced the same result. When referencing index terms, the descriptor type code (IT=) may be omitted. Section 4 discusses this matter in detail.

```
          EXPAND IT=MATHEMATICS
REF       DESCRIPTOR                TP   CIT   RT
E01    IT=MATHEMATICAL LOGIC ---         25    4
E02    IT=MATHEMATICAL MODELS -          166   11
E03    IT=MATHEMATICAL REVIEWS-          2
E04    IT=MATHEMATICAL
         VOCABULARY----------            15    2
E05    IT=MATHEMATICIANS---------        9     4
E06   -IT=MATHEMATICS -----------        761   33
E07    IT=MATHEMATICS CONCEPT
         LEARNING PROJECT--------        1
E08    IT=MATHEMATICS CONCEPT            1
E09    IT=MATHEMATICS
         CURRICULUM ----------           83    5
E10    IT=MATHEMATICS EDUCATION          333   5
E11    IT=MATHEMATICS FOR ELEME
         NTARY SCHOOL TEACH/ ----        1
E12    IT=MATHEMATICS
         INSTRUCTION/ ----------         251   7
E13    IT=MATHEMATICS LEAGUE/ --         1
E14    IT=MATHEMATICS MATERIALS          49    8
ENTER
```

The next page may be displayed by entering the PAGE (section 2.10) command (and TRANS).

To display the related terms of a particular displayed descriptor, the user presses EXPAND and enters the reference number of the associated term. EXPAND E10 produces the following display:

```
          EXPAND IT MATHEMATICS EDUCATION
REF       DESCRIPTOR                TP   CIT   RT
R01    -IT MATHEMATICS EDUCATION         323   5
R02    IT EDUCATION------ - ------3      553   61
R03    IT COLLEGE MATHEMATICS -4         102   6
R04    IT ELEMENTARY SCHOOL
         MATHEMATICS----------4          426   6
R05    IT MATHEMATICS----------4         761   33
R06    IT SECONDARY SCHOOL
         MATHEMATICS----------4          338   5
ENTER
```

One can continue to browse through the thesaurus by successively entering EXPAND and the desired reference numbers. The TP column indicates the relationship of the related term to the main entry as follows:

1. Use
2. Narrower term
3. Broader term
4. Related term
5. Use for

2.3 SELECT

SELECT
term
#

Terms may be selected by entering the SELECT command together with the E or R number of an EXPAND display, or the term itself. SELECT adds the term so entered to the user's search descriptor list which is printed at the console typewriter. A set identification number is assigned by the computer for use in subsequent COMBINE and output commands. The typewriter output shown below, for example, could have been obtained by SELECT MATHEMATICS, SELECT E6, or SELECT R5. The last two cases assume the appropriate display (section 2.2) was on the screen at the time the SELECT command was entered.

SET NO.	NO. IN SET	DESCRIPTION OF SET (+=OR, *=AND, -=NOT)
1	431	IT=MATHEMATICS

It is possible to select lists of E or R numbers provided an EXPAND display is on the console screen. Assume the first display shown in section 2.2 is on the screen. The command SELECT E6, E9, E10 will result in a single set which combines the entries for all three terms. The typewriter output in this case would be:

SET NO.	NO. IN SET	DESCRIPTION OF SET (+=OR, *=AND, -=NOT)
1	624	IT=E6, E9, E10 E6: IT=MATHEMATICS

A range of E or R numbers can also be selected (e.g., SELECT E7-E9, or SELECT E4, E7-E11).

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2.4 COMBINE

COMBINE
set nos.
$

Depression of this command key, together with entry of a set description (described below) causes the generation of a new set corresponding to the operation specified in the set description. A set description is a series of set numbers separated by various of the following operator symbols:

Symbol	Operation
+	OR
*	AND
-	NOT

The set description 1+2 means that any citation containing index term 1 or term 2 will be returned. This operator symbol is used to broaden the scope of a search by grouping similar terms such as MATHEMATICS EDUCATION or MATHEMATICS INSTRUCTION. The set description 1*2 means that any citation retrieved must contain both terms 1 and 2. This operator is used to narrow the scope of a search by requiring the common occurrence of several index terms such as MATHEMATICS INSTRUCTION and ELEMENTARY EDUCATION. Complex set descriptions can be entered by the use of parentheses; e.g., (1+2)*(3+4). An example of such an expression is that containing (MATHEMATICS EDUCATION or MATHEMATICS INSTRUCTION) and (PRIMARY EDUCATION or ELEMENTARY EDUCATION). All returned items must contain at least one term f[illegible] each parenthetical expression. At the conclusion of each combine command, the computer assigns a set number to the results, indicates the number of entries in the set, and prints the numbers of sets which were combined to achieve the results. This result is printed on the console typewriter. Set 5 was produced by the command, COMBINE (1+2)*(3+4).

SET NO.	NO. IN SET	DESCRIPTION OF SET (+=OR, *=AND, -=NOT)
1	91	MATHEMATICS EDUCATION
2	135	MATHEMATICS INSTRUCTION
3	61	PRIMARY EDUCATION
4	454	ELEMENTARY EDUCATION
5	18	(1+2)*(3+4)

In the above example, two concepts are developed. Sets 1, 2 relate to the first, whereas sets 3, 4 relate to the second. This is the usual way searches are conducted. That is, first the search topic is mentally broken down into several concepts. Each concept is then defined by selecting a series of terms which relate to that concept. Terms within a concept are OR'ed to form concept groups – (1+2) and (3+4) in the above example – and concept groups are AND'ed. An easy way to remember this idea is that the relationship of terms within a concept is OR and between concepts is AND.

If a term is to be excluded from the search, the NOT (-) relationship may be used in any COMBINE expressions. The user in the above example may have decided he was not interested in programed instruction. He could have selected this term (as set 6) and then entered COMBINE 5-6 to create set 7 which would exclude any citations containing the term PROGRAMED INSTRUCTION.

If one wishes to combine a consecutive string of sets, there is a short-cut version of the command. In place of entering COMBINE 1+2+3+4, one may enter COMBINE 1-4/+, for example. This command tells the computer to COMBINE sets 1 through 4 using an OR relationship. Both forms of the command have the same effect.

2.5 DISPLAY

DISPLAY set
ITEM + -
%

DISPLAY PRINT and TYPE commands are entered the same way but each causes ouput to a different device: the console display, the high speed printer at the computer, or the console typewriter, respectively.

Entering DISPLAY with a set number will cause the first item (i.e., the citation with the highest accession number) in the set to be displayed. The command DISPLAY 5 (from the example in section 2.4) would produce the following on the display screen:

```
                    DISPLAY 05/2/1
ED021467   68   RIEJAN69   EM000321
   MCGRAW-HILL: FILMSTRIPS, RECORDS, 8MM
FILM LOOPS, TRANSPARENCIES, GLOBEGRAPHIC
SYSTEM FOR ELEMENTARY GRADES, JUNIOR &
SENIOR HIGH SCHOOL, COLLEGE.
   MCGRAW-HILL FILMS, NEW YORK, N.Y.
(BBB00127)
   DOCUMENT NOT AVAILABLE FROM EDRS. 123P.
   /ART EDUCATION/*AUDIOVISUAL AIDS/*CATA
LOGS/ELEMENTARY EDUCATION/*FILMSTRIPS/
FRENCH/GEOGRAPHY INSTRUCTION/HIGHER EDUCA
TION/INSTRUCTIONAL FILMS/MATHEMATICS EDUCA
TION/*PHONOGRAPH RECORDS/SCIENCE EDUCATION/
SECONDARY EDUCATION/SINGLE CONCEPT FILMS/
SOCIAL STUDIES/SPANISH/TRANSPARENCIES/VOCA
TIONAL EDUCATION
ENTER:
```

The descriptors causing this citation to be retrieved have been underlined. Note the first line of the DISPLAY: DISPLAY 5/2/1. This says that the display contains the first item in set 5, and that the item is being displayed in format type 2. The other format options are:

1 Accession numbers only
3 Unformatted citation
4 Abstract only
5 Citation and abstract

To specify format and/or specific items from the set, the long form of the command must be used. A few examples will clarify these differences.

DISPLAY 5	Display items of set 5 (format 2 assumed)
DISPLAY 5/5	Display items of set 5 in format 5 (citation and abstract) beginning with the first
DISPLAY 5/2/10-15	Display 10th through 15th items of set 5 in format 2 beginning with the 10th
DISPLAY 5/1	Display only the accession numbers of set 5

Note the secondary command on the DISPLAY label: ITEM+-. This command is used to display the next (+), or the previous (-) item in a set. If no sign (+-) is entered, + is assumed. That is, merely entering the ITEM command causes the next item in a displayed set to be displayed.

2.6 PRINT

The PRINT command is entered in the same manner as DISPLAY. The initial entry of PRINT (with the desired set number), however, causes the first 50 items of the set to be printed. For 50 more items (or the remainder of the set if less than 100), PRINT (without a set number) is entered. In the following example, after doing a search on "film production" the user entered PRINT 3/5 which produced the message just below set 3. Entering PRINT caused the last 13 items to be printed out.

SET NO.	NO. IN SET	DESCRIPTION OF SET (*=OR, *=AND, -=NOT)
1	62	IT=FILM PRODUCTION
2	10	IT=FILM PRODUCTION SPECIALIST
3	63	1+2
P03/5/1-50		FOR 013 MORE HIT PRINT
P03/5/51-63		

2.7 TYPE

The TYPE command is entered in the same manner as DISPLAY, and is normally used to print accession numbers of search results at the console. After causing the 9 citations of set 7 to be printed in Format 5 on the high speed printer, the user in the example below typed out their accession numbers. The command he entered was TYPE 7/1. Note that the topic of this search is the use of computers or information processing for time-shared retrieval.

SET NO.	NO. IN SET	DESCRIPTION OF SET (*-OR, *=AND, -=NOT)
1	311	IT=COMPUTERS
2	257	IT=INFORMATION PROCESSING
3	502	1+2
4	303	IT=INFORMATION RETRIEVAL
5	119	(1+2)*4
6	39	IT=TIME SHARING
7	9	5*6
P07/5/1-9		TYPE 7/1/1-9
	ED030777	ED029676 ED027757 ED020748
	ED019094	ED019090 ED017283 ED016499
	ED016414	

If TYPE is done with a format other than 1, only the first item is typed out. Successive items in a set may be typed by merely entering TYPE.

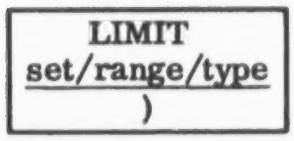
2.8 KEEP

KEEP
set
(

This command allows the user to selectively set aside items he is displaying. All kept items go into set 99 which can be used like all other sets (i.e., combined, printed, displayed, etc.).

If KEEP only is entered with a citation displayed on the console screen, that item will be put into set 99. KEEP 5 will keep all of set 5. KEEP 5/3-6 will keep items 3 – 6 of set 5. KEEP ED034076 will place accession number ED034076 in set 99.

2.9 LIMIT



This command allows the user to limit a set by an accession number range and/or document type. LIMIT 5/13000-13999 would create a new set containing only accession numbers between ED013000 and ED013999.

In the case of collections having more than one document type, it is possible to limit a set to a particular type (or types) of document. LIMIT 5/ALL/EJ would create a set containing only EJ numbers. The file codes are:

File	Code	Description
1	ED	Research in Education (RIE)
1	EJ	Current Index to Journals (CIJE)
2	EP	Current Project Information (CPI)
2	ES	Pacesetters in Innovation (PACE)
3	FR	Field Reader Catalog

If it is desired to limit all succeeding sets, the word ALL is used in place of set number. LIMIT ALL/13968-30777/EJ will limit all successive sets to the specified range in type. The effect of this command is canceled by entering LIMIT ALL/ALL/ALL.

2.10 PAGE

This command causes the next page of a display to be shown on the console screen. -MORE- in the lower right-hand corner of the screen indicates there is another page. When used following a DISPLAY command, PAGE will cause the next item to be displayed when all pages of the current item have been displayed.

2.11 END

END
=

Entering this command produces a display requesting the user to evaluate the search technique by entering code numbers in response to queries which appear on the screen. The display below represents a completed response.

```
PLEASE EVALUATE DIALOG FEATURES AS FOLLOWS:
        1-HIGHLY
        2-MODERATELY
        3-NO OPINION
        4-DEFICIENT
ARE RETRIEVED ITEMS RELEVANT ?

ARE THE RESULTS EXHAUSTIVE ?
ARE THE RESULTS WORTH THE TIME SPENT ?
WERE YOU INSTRUCTED IN USE OF DIALOG ?
IS THE MANUAL USEFUL ?
GENERAL COMMENTS (IF ANY) THANK YOU

ENTER:
```

The interview procedure can be bypassed by entering the END command and typing in BYPASS (or simply B). It is important to execute an END command at search conclusion because this command actually stores the items to be printed.

2.12 DISPLAY SET HISTORY

DISPLAY SET HISTORY
@

Entry of this command during a search causes a display of all sets thus far created. In other words, this display duplicates the console typewriter output. If new terms are selected while this display is on the screen, they are posted to the display.

This command is used primarily in the absence of a console typewriter. An example of the display response to a DISPLAY SET HISTORY command is as follows.

SET NO.	NO. IN SET	DESCRIPTION OF SET (+=OR, *=AND, -=NOT)
2	132	IT=MATHEMATICS
2	92	IT=MATHEMATICS SELECTION
3	135	IT=MATHEMATICS INSTRUCTION
4	61	IT=PRIMARY EDUCATION
5	454	IT=ELEMENTARY EDUCATION
6	23	(1+2+3)*(4+5)

2.13 SEND MESSAGE

SEND MESSAGE term no./msg.
]

This command allows one terminal to send a message to another terminal or terminals. After entry of the following command

SEND MESSAGE 3/HELLO

the message HELLO will be sent to terminal 3.

Individual messages should not exceed one display screen line. Terminal 1 is usually the central control terminal.

2.14 TRANSMIT, MASTER CLEAR

TRANS	MASTER CLEAR

Although not an operation command, TRANS is depressed following each command entry and causes the entered command and data to be read by the computer (transmitted to the computer). Depression of this key also disables the keyboard causing the blue light to go out. If the blue light does not come on again within approximately 1 minute, the MASTER CLEAR key should be depressed (which enables the keyboard and turns on the blue light), and the TRANS key depressed again. If the condition again repeats, MASTER CLEAR and TRANS should be successively depressed 2 to 3 times.

2.15 SPECIAL OPERATORS

COLLECTION RESET

A collection reset can be accomplished by entering the following on the terminal:

./FILEn

Where 'n' is the number of the desired file as displayed during the BEGIN search interview. (See section 2.1.) The effect of this command will be to change the file being searched. The following message will be displayed to signal that the change has been completed:

COLLECTION RESET PERFORMED

COMMAND CHAINING

By using the semicolon (;) between commands, stacking of those commands can be accomplished. For example, when paging through a set displayed on the screen, entering "O;O;O;O;O" will execute five consecutive page commands in succession. This technique is useful for displays of sets, but can also be used for select commands and expand commands.

Section 3
PRACTICE SEARCHES

This section contains four practice searches of increasing complexity:

- Single Term Retrieval
- Two Terms – OR(+) Relationship
- Two Terms – AND(*) Relationship
- Two Concept Groups – AND(*) and OR(+) Relationships

The reader should mentally practice the steps in these examples before attempting his own search to assure an understanding of clerical and logical procedure of a search. When first performing a search at the terminal,it is well to practice one or two of these examples. The last example (section 3.4) illustrates use of all the major commands. When this example is clear, the reader is ready to use the terminal.

Examples are presented with the description on the left page and the procedure on the right page to facilitate cross reference.

3.1 SINGLE TERM RETRIEVAL

In this example the user wants all citations indexed by the term MICROFORMS. He simply selects the term, displays the first two citations from the resulting set, and prints out the entire set which contains six citations.

The reader should locate the index term field in the display and identify the term MICROFORM – the common basis for set 1. Note use of BEGIN BYPASS and END BYPASS. By typing in "BYPASS" (or simply, B), the BEGIN and END interview sequences are bypassed. The typewriter response, IT=MICROFORMS, indicates that this descriptor is an index term which is assumed if no descriptor type code is entered.

Other descriptor types which may be used in parallel include AU= for author, PS= for primary source, CN= for contract number, etc., which are described in Section 4. The typewriter response to the print command indicates that set 1 was printed in format 2 consisting of 6 items. PRINT may be specified using "set/format/item range" in place of "set" as in the example in order to vary the format or extent of output. These options are discussed in in section 2.6. Below is shown the first item printed.

```
   PRINT 01/2/1-6
ED033264  63  AA000434
   CURRENT TRENDS IN MICROFORM USE BY
SECONDARY SCHOOLS: FOUR CASE STUDIES.
   LEE, THOMAS GRAHAM
   MONA SHORES SCHOOLS, MUSKEGON, MICH.
   RMQ68004
   BR-8-E-077
   JUN 69
   OEG-0-8-080077-4491(094)
   62P.
   EDRS PRICE MF-$0.50 HC-$3.30
   /  BUSINESS  EDUCATION/  CATALOGS/
*EQUIPMENT/  EQUIPMENT  UTILIZATION/
INFORMATION STORAGE/  INSTRUCTIONAL AIDS
/  *LIBRARY  COLLECTIONS/  *MICROFORMS/
*PROGRAM DESCRIPTIONS/  RESOURCE GUIDES/
   *SECONDARY  EDUCATION/  SECONDARY
SCHOOLS/  SOCIAL STUDIES
```

Note that had the user displayed this citation, he might have noticed the term which he then could have selected for additional items.

TRANSMIT CYCLE			RECEIVE CYCLE	
DEPRESS THIS KEY	TYPE IN THE FOLLOWING	DEPRESS THIS KEY	TYPEWRITER RESPONSE	DISPLAY RESPONSE
BEGIN	BYPASS	TRANS	SET NO. / NO. IN SET / DESCRIPTION OF SET (+=OR, *=AND, -=NOT)	
SELECT RQST	MICROFORMS	TRANS	1 6 IT=MICROFORMS	
DISPLAY 01 ITEM 0 0	1	TRANS		DISPLAY 01/2/1 ED033264 JUN 69 52 RIEMAR70 AA000434 OEG-0-8-080077-4491(095) CURRENT TRENDS IN MICROFORM USE BY SECONDARY SCHOOLS: FOUR CASE STUDIES LEE, THOMAS GRAHAM MONA SHORES SCHOOLS, MUSKEGON, MICH. (MVK 84885) OFFICE OF EDUCATION (DHEW), WASHINGTON, D. C. BUREAU OF RESEARCH (BRQ65004) EDRS PRICE MF-$0.50 HC-$3.29 62P. /BUSINESS EDUCATION/CATALOGS/*EQUIPMENT/ EQUIPMENT UTILIZATION/INFORMATION STORAGE/ INSTRUCTIONAL AIDS/*LIBRARY COLLECTIONS/* MICROFORMS/*PROGRAM DESCRIPTIONS RESOURCE GUIDES/*SECONDARY EDUCATION/SECONDARY SCHOOLS/SOCIAL STUDIES ENTER:
DISPLAY 01 ITEM 0 0		TRANS		DISPLAY 01/2/2 ED032912 68 RIEFEB70 L1001780 FLC-1 PROCUREMENT OF LIBRARY MATERIALS IN THE FEDERAL GOVERNMENT; AN ORIENTATION AID PREPARED FOR THE FEDERAL LIBRARY COMMITTEE. FALK, LESLIE K. FEDERAL LIBRARY COMMITTEE, WASHINGTON, D.C. (BBD02259) SUPERINTENDENT OF DOCUMENTS, U.S. GOVERNMENT PRINTING OFFICE, WASHINGTON, D.C. 20402 (LC 1.32/ 2:L61, $0.50). EDRS PRICE MF-$0.25 HC NOT AVAILABLE FROM EDRS. 45P. /DEPOSITORY LIBRARIES/*FEDERAL GOVERNMENT/* GOVERNMENT LIBRARIES/GOVERNMENT PUBLICATIONS/ GUIDES/*LIBRARY ACQUISITION/*LIBRARY MATERIALS/ MICROFORMS/PATENTS/ ENTER: -MORE-
PRINT RQST 1	1	TRANS	PRINT 1/2/1-6	
END	BYPASS	TRANS	TOTAL ELAPSED TIME = 02.31 MIN.	

3.2 TWO TERM RETRIEVAL – OR(+) RELATIONSHIP

In this example the user is interested in film making. Expanding this term, he sees there are no postings (E6). He does notice that E7 as well as E8 relate to his search concept. He selects each of these terms and creates set 3 which contains all citations from either set 1 or set 2 (or both). The reason set 3 does not contain 72 items (62 + 10) is that 4 items appear in both sets 1 and 2. Without displaying any citations from set 3, he prints all 68 items in format 5. Note that this requires two PRINT command entries.

The OR relationship is normally used to combine similar terms into a more general concept group. The usual result of a combine or command is to create a set which is larger than sets referenced in the command.

TRANSMIT CYCLE			RECEIVE CYCLE	
DEPRESS THIS KEY	TYPE IN THE FOLLOWING	DEPRESS THIS KEY	TYPEWRITER RESPONSE	DISPLAY RESPONSE
BYPASS		TRANS	SET NO. IN NO. SET DESCRIPTION (+=OR, *=AND, -=NOT)	EXPAND IT-FILM MAKING REF DESCRIPTOR CIT RT E01 IT-FILIPINO AMERICANS--- 2 4 E02 IT-FILM ANALYSIS INTERACTION RECORD--- 1 E03 IT-FILM ANALYZER--------- 1 E04 IT-FILM CLIPS---------- 1 E05 IT-FILM LOOPS---------- 1 E06 -IT-FILM MAKING---------- E07 IT-FILM PRODUCTION--------- 62 3 E08 IT-FILM PRODUCTION SPECIALISTS---------- 10 2 E09 IT-FILM STUDY---------- 46 17 E10 IT-FILMS---------- 374 16 E11 IT-FILMSTRIP PROJECTORS- 7 2 E12 IT-FILMSTRIPS---------- 126 7 E13 IT-FINANCIAL POLICY--------- 1 E14 IT-FINANCE---------- E15 IT-FINANCE OCCUPATIONS---- 2 7 E16 IT-FINANCIAL BARRIERS------ 1 ENTER: -MORE-
FILM MAKING		TRANS	----------	
E7		TRANS	1 62 IT=FILM PRODUCTION	
E8		TRANS	2 10 IT=FILM PRODUCTION SPECIALISTS	
1+2		TRANS	3 68 1+2	
3/5		TRANS	P3/5/1-50, FOR 18 MORE HIT PRINT	
		TRANS	P3/5/51-68	
BYPASS			TOTAL ELAPSED TIME IS 4.0 MIN.	

3.3 TWO TERM RETRIEVAL – AND(*) RELATIONSHIP

In this example the user is interested in the use of computers for information retrieval. Because there is no single descriptor which combines both terms, the user asks for each separately. The COMBINE command (i.e., COMBINE 1*2) results in set 3, all items of which contain both "computers" and "information retrieval." Finally the 48 items are printed.

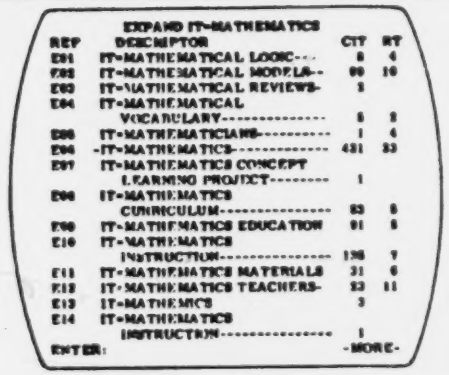
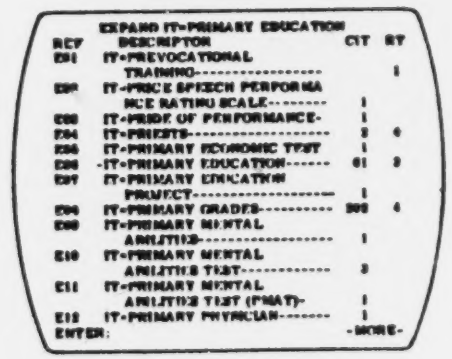
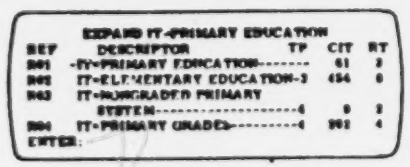
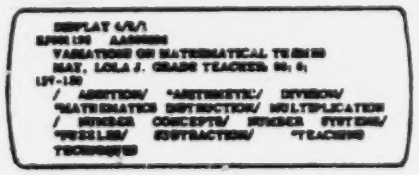
The AND(*) relationship with a COMBINE command is normally used to create more specific concepts. The result will usually be a set which is smaller than the sets referenced in the COMBINE command.

TRANSMIT CYCLE			RECEIVE CYCLE	
DEPRESS THIS KEY	TYPE IN THE FOLLOWING	DEPRESS THIS KEY	TYPEWRITER RESPONSE	DISPLAY RESPONSE
BEGIN / ↑	BYPASS	TRANS	SET NO. NO. IN SET DESCRIPTION (+=OR, *=AND, -=NOT)	
SELECT SET 1	COMPUTERS	TRANS	1 311 IT=COMPUTERS	
SELECT SET 2	INFORMATION RETRIEVAL	TRANS	2 303 IT=INFORMATION RETRIEVAL	
CONJOIN SET 1	1*2	TRANS	3 48 1*2	
PRINT SET 3	3	TRANS	P3/2/1-48	
END / ↓	BYPASS	TRANS	TOTAL ELAPSED TIME IS 3.25 MIN.	

3.4 TWO CONCEPT GROUPS – AND(*) AND OR(+) RELATIONSHIPS

This example includes all of the major command operations and serves as a good review of the search process. The user is interested in the teaching of mathematics in elementary schools. In expanding MATHEMATICS he sees two terms which relate to his first concept which he selects. He then expands PRIMARY EDUCATION and notices that it has three related terms in the thesaurus. He displays these by expanding E6. He then selects R1 and R2 with a single SELECT command. This is the equivalent of selecting each term separately and combining them by OR(+). He then creates his final search expression by the COMBINE command. He displays the first of his results, prints them, and types out their accession numbers.

This example illustrates the form of most searches. That is,the search topic is mentally broken down into independent concepts. In this example there are two such concepts: teaching mathematics and elementary grades. Next all index terms relating to each concept are selected. Note that sets 1 and 2 relate to the first concept, and that set 3 (which joins PRIMARY EDUCATION and ELEMENTARY EDUCATION into a single set) relates to the second concept. Terms within a concept are OR'ed, and concepts are AND'ed. It is frequently convenient to do a separate OR COMBINE for each concept prior to AND'ing concepts in that subsequent modifications become easier.

TRANSMIT CYCLE			RECEIVE CYCLE			
DEPRESS THIS KEY	TYPE IN THE FOLLOWING	DEPRESS THIS KEY	TYPEWRITER RESPONSE			DISPLAY RESPONSE
	BYPASS		SET NO.	NO. IN SET	DESCRIPTION OF SET (+=OR, *=AND, -=NOT)	
	MATHEMATICS		———	———	———	
	E9		1	91	IT=MATHEMATICS EDUCATION	
	E10		2	135	IT=MATHEMATICS INSTRUCTION	
	PRIMARY EDUCATION		———	———	———	
	E6				IT=R1, R2	
	R1, R2		3	507	R1: IT=PRIMARY EDUCATION	
	(1+2)*3		4	14	(1+2)*3	
	4		———	———	———	
	4		P4/2/1-14			
	4/1		TYPE 00/1/1-14 ED021467 ED021441 ED020658 ED012958 ED012207 ED011081 ED010766 ED010329 ED010109 ED003669 ED003367 ED003299 ED002162 ED001308			
	BYPASS		TOTAL ELAPSED TIME IS 5.32 MIN.			

Section 4
FILES AVAILABLE FOR RETRIEVAL

At the time of publication of this manual, the ERIC/DIALOG retrieval system includes an enormous variety of informational material of interest to the educational profession. Complete collections of the following documents have been stored on and are accessible from the computer:

1. Research in Education (RIE)
2. Current Index to Journals in Education (CIJE)
3. Current Project Information (CPI)
4. Pacesetters in Innovation (PACE)
5. Field Reader Catalog
6. Exceptional Child Educational Abstracts

For convenience in searching, collections 1 and 2 have been combined as have 3 and 4. File selection is described in Section 2.1. Any item from any files may be displayed directly by entering DISPLAY and typing in its accession number.

This section describes each of these files and enumerates the retrieval codes (e.g., AU=Author, IT=Index Term, etc.) available for the file. Descriptive text was extracted from the corresponding document in each case.

4.1 RESEARCH IN EDUCATION (RIE)

Research in Education is prepared monthly by the Educational Resources Information Center (ERIC) to make possible the early identification and acquisition of reports of interest to the educational community. ERIC is a nationwide information network for acquiring, selecting, abstracting, indexing, storing, retrieving, and disseminating the most significant and timely educational research reports and projects. It consists of a coordinating staff in Washington, D.C. and 19 clearinghouses located at universities or with professional organizations across the country. These clearinghouses, each responsible for a particular educational area, are an integral part of the ERIC system. The clearinghouses are listed on the inside back cover.

All the documents cited in the Document Résumé Section of the journal, except as noted, are available from the ERIC Document Reproduction Service. Availability and prices of document collections are to be found on the How To Order ERIC Document Reproductions page.

EXAMPLE

Retrieval Codes		
ERIC Accession Number—identification number sequentially assigned to documents as they are processed.	*	ED 013 371 64 AA 000 223
Author(s).	AU=	*Norberg, Kenneth D.*
Title.	TI=	ICONIC SIGNS AND SYMBOLS IN AUDIOVISUAL COMMUNICATION, AN ANALYTICAL SURVEY OF SELECTED WRITINGS AND RESEARCH FINDINGS, FINAL REPORT.
Organization where document originated.	PS=	Sacramento State Coll., Calif.
	SP=	Spons Agency—USOE Bur of Research
	DN= (Report Number) BR= (Bureau Number)	Report No.—NDEA-VIIB-449
Date published.		Pub Date—15 Apr 66
Contract or Grant Number—contract numbers have OEC prefixes; grant numbers have OEG prefixes.	CN=	Contract—OEC-4-16-023
		Note —Speech given before the 22nd National Conference on Higher Education, Chicago, Ill., 7 Mar 66.
Alternate source for obtaining documents.		Available from—Indiana University Press, 10th and Morton St., Bloomington, Indiana 47401 ($2.95)
EDRS Price—price through ERIC Document Reproduction Service. "MF" means microfiche; "HC" means hard copy. When listed "not available from EDRS" other sources are cited above.		EDRS Price—MF-$0.75 HC-$5.24 129p.
		Descriptors—*Bibliographies, *Communication (thought transfer), *Perception, *Pictorial Stimuli, *Symbolic Language, Instructional Technology, Visual Stimuli.
	IT=	
		Identifiers—Stanford Binet Test, Wechsler Intelligence Scale; Lisp 1.5; Cupertino Union School District.
	IT=	
		The field of analogic, or iconic, signs was explored to (1) develop an annotated bibliography and (2) prepare an analysis of the subject area. The scope of the study was limited to only those components of messages, instructional materials, and communicative stimuli that can be described properly as iconic. The author based the study on a definition of an iconic sign as one that looks like the thing it represents. The bibliography was intended to be representative and reasonably comprehensive and to give emphasis to current research. The analysis explored the nature of iconic signs as reflected in the literaure and research. The conclusion of the analysis attempted to relate some issues in perception theory to the problem of the development of a theory of iconic signs. Discussions were included on (1) the stimulus-response paradigm, (2) the psychophysical theory of perception, (3) an information theory approach, (4) nonverbal communication and pictic analysis, (5) a theory of pictorial communication and (6) perception and nonlinear signs. (AL)
	AC=	Legislative Authority Code for identifying the legislation which supported the research activity (when applicable).
	CH=	Clearinghouse accession number.
		Sponsoring Agency—agency responsible for initiating, funding, and managing the research project.
		Report Number and/or Bureau Number—assigned by originator.
		Descriptive Note.
		Descriptors—subject terms which characterize substantive contents. Only the major terms, preceded by an asterisk, are printed in the subject index.
		Identifiers—additional identifying terms not found in the Thesaurus of ERIC Descriptors.
		Informative Abstract.
		Abstractor's Initials.

Other Retrieval Codes

IS = Issue of RIE

JO = Journal Citation

SC = Source Code - of originating organization

*Can be displayed directly

4.2 CURRENT INDEX TO JOURNALS IN EDUCATION (CIJE)

The education profession represents a diverse audience—the practicing teacher, the school administrator, the education librarian, the educational researcher. *Current Index to Journals in Education* has been organized to serve the information needs of this audience and to be compatible with the ERIC information retrieval system.

History

Since June 1964, the US Office of Education has maintained the Educational Resources Information Center (ERIC), a national information system which disseminates educational research results, research-related materials, and other resource information. Through a network of specialized centers, or clearinghouses, each of which is responsible for a particular educational area, information is acquired, evaluated, abstracted, indexed, and listed in *Research in Education (RIE)*. This reference publication provides access to report literature in the field of education. *RIE* has been unable to incorporate a proper awareness of the vast amount of literature published in periodicals and journals. This inadequate coverage has indicated the need for a second publication devoted exclusively to the periodical literature, drawing upon the subject expertise of the ERIC clearinghouses and the vocabulary of descriptor headings developed for the indexing of educational literature. *Current Index to Journals in Education* was thus created to serve the information needs of the practicing educator, reference librarian, and educational researcher. The new monthly publication has been given a unique organization to meet this multiple requirement (see Organization and Use of CIJE).

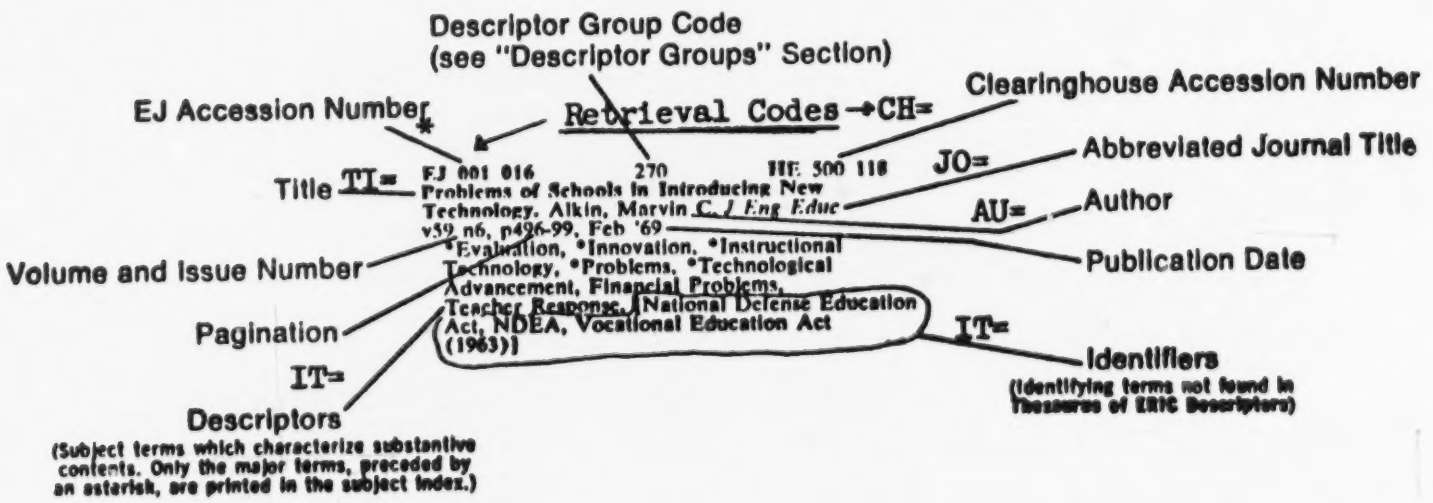
Coverage

CIJE currently covers 352 publications. The majority of these publications represent the core periodical literature in the field of education. The other publications indexed in *CIJE* represent coverage devoted to peripheral literature relating to the field of education. This unique feature assures access to important articles published in those periodicals which fall outside the scope of education-oriented literature. The inclusion of an author index provides an added dimension to the reference utility of *CIJE*..

Availability of Reprints

At the present time, reprints of articles indexed in *CIJE* are not available from a central source. However, a Source Journals Index is included in this publication which will enable users to correspond directly with the journal publisher. This index was compiled from questionnaires returned by the journal publishers. The information listed is as complete as was possible at press time and will be updated periodically.

EXAMPLE


Descriptor Group Code
(see "Descriptor Groups" Section)
EJ Accession Number*
Retrieval Codes →CH=
Clearinghouse Accession Number
Title TI=
EJ 001 016 270 HE 500 118
Problems of Schools in Introducing New Technology. Alkin, Marvin C. J Eng Educ
JO=
Abbreviated Journal Title
AU=
Author
v59 n6, p426-99, Feb '69
Publication Date
Volume and Issue Number
*Evaluation, *Innovation, *Instructional Technology, *Problems, *Technological Advancement, Financial Problems, Teacher Response, National Defense Education Act, NDEA, Vocational Education Act (1963)]
Pagination
IT=
Identifiers
(Identifying terms not found in Thesaurus of ERIC Descriptors)
IT=
Descriptors
(Subject terms which characterize substantive contents. Only the major terms, preceded by an asterisk, are printed in the subject index.)

*** Can be displayed directly**

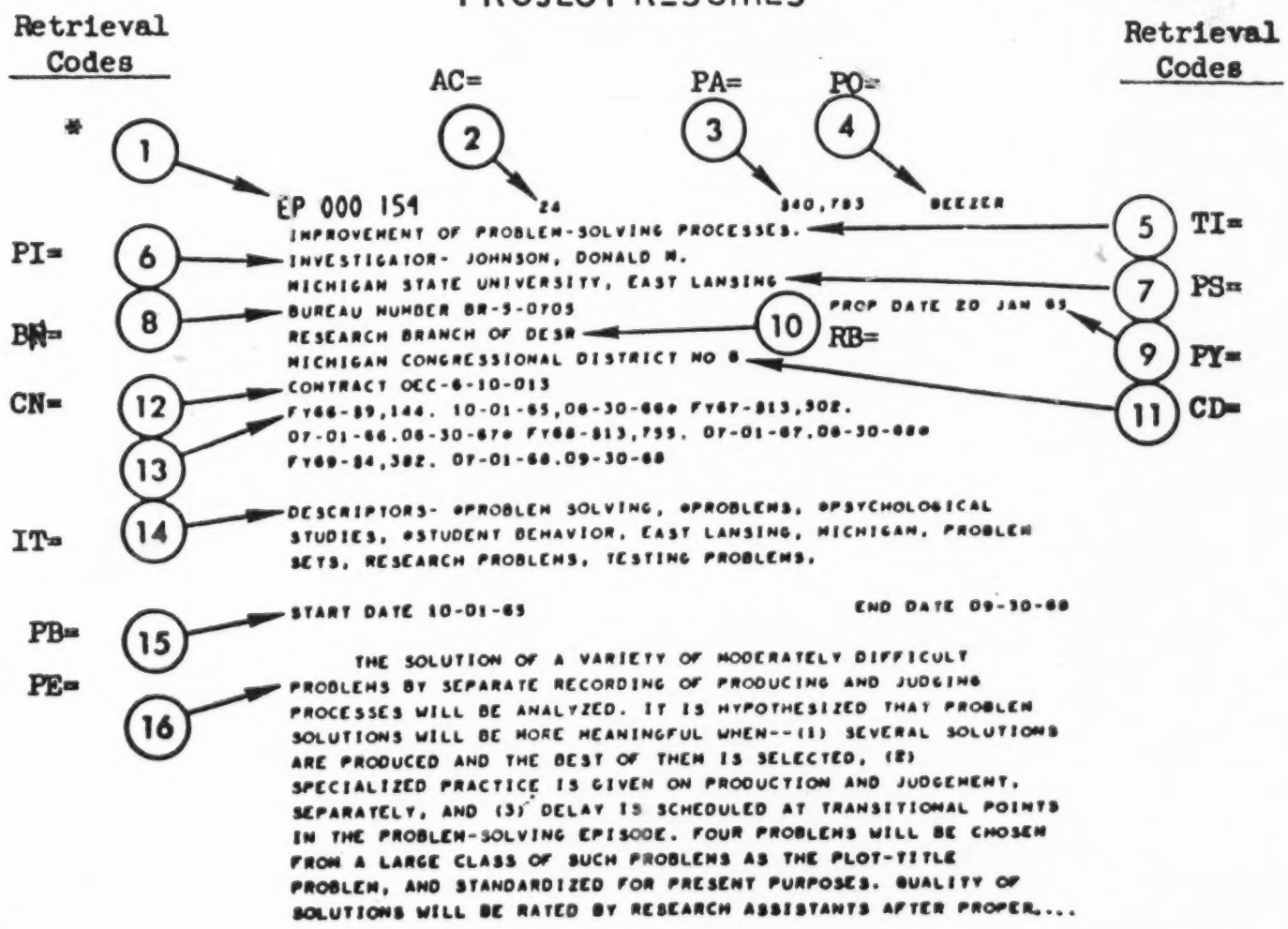
4.3 CURRENT PROJECT INFORMATION (CPI)

Current Project Information (CPI) presents information about Research Projects funded by the Bureau of Research, Office of Education. It is intended to serve the management personnel who plan, control, and monitor research grants and contracts in the Bureau.

CPI is produced quarterly. New projects are added as they are initiated; deletions are made only when projects have been closed.

CPI is divided into two major sections – Projects Résumés and Project Indexes. The Project Résumés are arranged in sequence by the EP (Educational Project) ACCESSION NUMBERS. The indexes are accessed using the appropriate retrieval code shown below.

PROJECT RESUMES



*Canbe displayed directly.

1. ACCESSION Number - An identification number sequentially assigned to Projects as they are processed.

2. PROGRAM AREA CODE - A two-digit code designating the Legislative authority which supports the research activity. The key to these codes is as follows:

P.A. Code	Description
08	Adult and Vocational Education, PL 88-210
16	Captioned Films for the Deaf, PL 85-905
24	Cooperative Research, PL 89-10, Title IV
32	Disadvantaged Students Program, PL 89-10, Title I
40	Handicapped Children and Youth, PL 88-164
48	Language Development, PL 85-864, Title VI
52	Library Research and Development, PL 89-320, Title II, Part B
56	New Educational Media, PL 85-864, Title VII, Part A
64	New Educational Media, PL 85-864, Title VII, Part B
72	Research in Foreign Countries, PL 83-480
80	State Educational Agencies Experimental Activities, PL 89-10, Title V, Section 505
88	Supplementary Centers and Services, PL 89-10, Title III
95	Other O.E. Programs

3. DOLLAR AMOUNT - The total federal support dollar amount for the Project.

4. PROJECT OFFICER - The Bureau of Research Officer who is responsible for the Project.

5. TITLE - The title of the Research Project.

6. INVESTIGATOR - The individual (or individuals) responsible for conducting the Research Project.

7. INSTITUTION - The organization responsible for conducting and administering the Project.

8. BUREAU Number - An administrative control number assigned and utilized by the Bureau of Research, USOE.

9. PROPOSAL DATE - The date the proposal was submitted for evaluation to the Bureau of Research, USOE.

10. RESPONSIBLE BRANCH - The organizational Branch within the Bureau of Research which is responsible for the administration of the Project. The division in which that Branch is located is listed in acronym form following the name of the Branch.

11. CONGRESSIONAL DISTRICT - The Congressional District in which the Institution conducting the Research is located.

12. CONTRACT OR GRANT - The USOE Contract or Grant Number for the Project. All contracts have an "OEC-" prefix. Grants have an "OEG-" prefix.

13. FISCAL YEAR FUNDING - The funding for each fiscal year and the time period covered during the fiscal year (normally, but not always, July 1 to June 30). Data for each fiscal year is separated by an asterisk. A maximum of four years is displayed for each Project.

14. DESCRIPTORS - The subject terms assigned by an indexer to characterize the substance of the Project. The major subject areas are preceded by an asterisk (only these "major descriptors" are displayed in the Subject Index). This field also contains the geographic location (city and state) of the organization performing the research and the names of techniques or tests to be used in the Research Project.

15. PROJECT DATES - The starting date and the anticipated ending date for the Research Project.

16. ABSTRACT - A synopsis of the Research Project in 200 words or less. When applicable it includes the purpose of the Project and the procedures and methods to be used.

4.4 PACESETTERS IN INNOVATION (PACE)

PACESETTERS IN INNOVATION, Cumulative Issue, presents information on Projects to Advance Creativity in Education (PACE) which were approved during fiscal years 1966, 1967, 1968, and 1969, and were still in operation as of February 1969. The PACE program is authorized and funded under title III, Supplementary Centers and Services, of the Elementary and Secondary Education Act of 1965.

This volume represents a compilation of planning and operational grants. The projects were abstracted according to the format followed by the Program Development and Dissemination Branch, Bureau of Elementary and Secondary Education, and were indexed according to principles developed in the Educational Resources Information Center (ERIC), a comprehensive information system operating within the Office of Education as a branch of the Division of Information Technology and Dissemination, National Center for Educational Research and Development.

Retrieval Codes

Accession Number — an identification number sequentially assigned to projects as they are processed.

Title — the title of the project.

Location and Agency — the State and city location and the legal educational agency responsible for conducting and administering the project.

Project Number — an administrative control number assigned and utilized by the Division of Plans and Supplementary Centers (DPSC).

EDRS Price — price of the document through the ERIC Document Reproduction Service. "MF" means microfiche; "HC" means hard copy.

Descriptors — the subject terms assigned by an indexer to characterize the substance of the project. The major subject areas are preceded by an asterisk (only these "major descriptors" are displayed in the Subject Index).

SAMPLE ENTRY

ES 000 014

TI= PILOT HEALTH, PHYSICAL EDUCATION AND RECREATION DEMONSTRATION CENTERS IN THE ELEMENTARY PUBLIC SCHOOLS OF TOPEKA

PS= KANS., TOPEKA, PUBLIC SCHOOLS

PN= Project Number DPSC-66-552

EDRS Price MF-$0.09 HC-$1.64

IT= Descriptors—*Experimental Programs, Handicapped Children, *Health Education, *Kindergarten, *Physical Education, *Recreation, *Specialists

DEMONSTRATION CENTERS WILL BE ESTABLISHED IN PUBLIC AND PRIVATE ELEMENTARY SCHOOLS TO DETERMINE THE BEST METHOD OF PROVIDING HEALTH, PHYSICAL EDUCATION, AND RECREATION PROGRAMS IN ORDER TO MOTIVATE STUDENTS IN THE AREA OF PHYSICAL FITNESS. FIFTEEN SPECIALISTS WILL BE ASSIGNED TO BE PHYSICAL EDUCATION INSTRUCTORS AND TO HELP TEACHERS. SPECIALISTS WILL WORK FULL-TIME IN ONE SCHOOL, ALTERNATE DAYS IN TWO SCHOOLS, AND 1-DAY PER WEEK IN EACH OF FIVE SCHOOLS. FOLLOWUP STUDIES WILL BE MADE TO DETERMINE HOW THE AMOUNT OF TIME SPENT IN A SCHOOL BY SUCH A SPECIALIST AFFECTS THE TOTAL DEVELOPMENT OF THE STUDENTS. AT THE END OF THE SCHOOL YEAR A CURRICULUM WORKSHOP WILL BE HELD TO EVALUATE THE PROGRAM AND DEVELOP A CURRICULUM GUIDE FOR PHYSICAL EDUCATION IN ELEMENTARY SCHOOLS. A SECTION OF THE GUIDE WILL BE DEVOTED TO PHYSICAL EDUCATION FOR HANDICAPPED CHILDREN. IN ADDITION, AN ENRICHMENT PROGRAM OF SPORTS, CAMPING SKILLS, AND WATERFRONT ACTIVITIES MAY BE PLANNED FOR THE SUMMER MONTHS. APPROXIMATELY 19,793 CHILDREN AND 60 TEACHERS WILL BE SERVED. FOR FURTHER INFORMATION, CONTACT DR. QUENTIN D. GROVES, SUPERVISOR, HEALTH, PHYSICAL EDUCATION AND SAFETY, THE PUBLIC SCHOOLS OF TOPEKA, 415 WEST EIGHTH ST., TOPEKA, KANSAS 66603. (913) 357-0351 (JE)

*Can be displayed directly

4.5 FIELD READER CATALOG

The Field Reader Catalog is a compilation of nongovernment specialists under contract to the Bureau of Research, Office of Education for Fiscal Year 1969. Their function is to review and evaluate proposals submitted to the Bureau for support.

Data contained in the Field Reader Catalog was compiled from information furnished to the Bureau of Research by each field reader.

For further information on the use of this catalog or on field reader availability, contact Research, Analysis, and Allocation Staff, Field Reader Unit, Room 3159, FOB 6, 400 Maryland Avenue, S.W., Washington, D. C. 20202.

Retrieval Codes

* ① RE= ②

FR 001 064 06

FR= ③ MAYLICEK, DR. LARRY L. (913)864-3179
SCHOOL OF EDUCATION, UNIVERSITY OF KANSAS
LAWRENCE, KANSAS 66044

PS= ④ KANSAS UNIV., LAWRENCE
CONTRACT OEC-0-8-001460-1460

CN= ⑤

IT= ⑥ SPECIALTIES- *EDUCATIONAL PSYCHOLOGY, *EVALUATION, *LEARNING THEORIES, *MEASUREMENT, *RESEARCH DESIGN, *STATISTICS, REGION 06,

⑦ DEGREES--(1) UNIVERSITY OF KANSAS (A) ED. D. (EDUCATIONAL PSYCHOLOGY) 1963, (B) M.M.E. (EDUCATION) 1959, (C) B.M.E. (EDUCATION) 1955. EXPERIENCE HIGHLIGHTS--(1) UNIVERSITY OF KANSAS (A) ASSOCIATE PROFESSOR OF EDUCATION 1967---, (B) RESEARCH ASSISTANT 1959-62, (2) SPECIALIST, RESEARCH DESIGN, MID-CONTINENT REGIONAL EDUCATIONAL LABORATORY 1966-67, (3) DIRECTOR OF INSTITUTIONAL RESEARCH, WICHITA STATE UNIVERSITY 1963-66, (4) DIRECTOR OF RESEARCH, YOUTH DEVELOPMENT PROJECT, KANSAS CITY (MISSOURI) PUBLIC SCHOOLS 1962-63, (5) INSTRUCTOR, DOANE COLLEGE 1956-59, (6) EVALUATION CONSULTANT FOR TITLE I, III, AND IV STUDIES. PUBLICATIONS INCLUDE TWO JOURNAL ARTICLES AND FOUR COMPUTER PROGRAMS PUBLISHED BY IBM.

① ACCESSION NUMBER - An identification number sequentially assigned to Field Readers as they are processed.

② REGION NUMBER - Indicates the department of Health, Education, and Welfare Regional Office number. The key to the codes is as follows:

01 Boston, Massachusetts
02 New York, New York
03 Charlottesville, Virginia
04 Atlanta, Georgia
05 Chicago, Illinois
06 Kansas City, Missouri
07 Dallas, Texas
08 Denver, Colorado
09 San Francisco, California

③ NAME AND ADDRESS - The name and preferred mailing address of the Field Reader.

④ INSTITUTION - The institutional or organizational affiliation of the Field Reader.

⑤ CONTRACT NUMBER - The USOE contract number assigned to the Field Reader.

⑥ SPECIALTIES - The subject terms assigned by an indexer to characterize the areas of specialization of the Field Reader.

⑦ ABSTRACT - A synopsis of the Field Reader's background. Contains his degrees, experience highlights and other significant activities and publications.

4.6 HOW TO USE EXCEPTIONAL CHILD EDUCATION ABSTRACTS

Exceptional Child Education Abstracts contains journal reference entries and abstracts stored on the computer files of the CEC Information Center. Items are published as they are processed, and, eventually, the collection of *Exceptional Child Education Abstracts* will represent a printed edition of the total computer file.

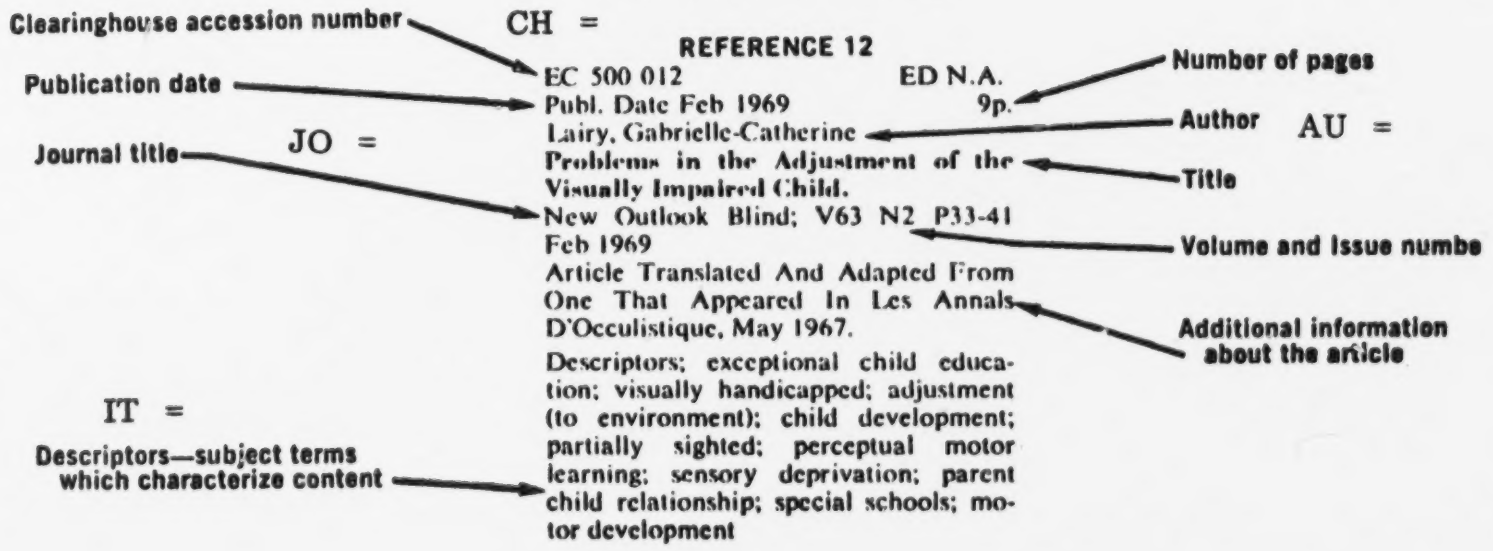
The Center began acquiring, abstracting, and indexing documents in 1967. Significant literature published since 1962, related to the education of the handicapped and gifted, was obtained. Therefore Volume One will contain a number of abstracts with early publication dates. This issue and several future issues of *Exceptional Child Education Abstracts* will contain a substantial number of current items as well as some abstracts of earlier publications considered necessary for a comprehensive information file.

Currently, the Center is indexing articles from core journals in the field. In the near future, the coverage will be considerably expanded in an attempt to identify all relevant articles published in periodicals. Substantive articles are selected for abstracting and stored in the abstract file as well as the reference file. However, the initial indexing procedure, without abstracting, permits rapid processing and announcement.

The indexing of journal literature began with January 1969 publications. Journals currently being indexed on a regular basis are:

Academic Therapy Quarterly
American Annals of the Deaf
American Journal of Mental Deficiency
American Journal of Orthopsychiatry
Annual Review of Psychology

Sample Reference Entry


Clearinghouse accession number
CH =
REFERENCE 12
EC 500 012
ED N.A.
Number of pages
9p.
Publication date
Publ. Date Feb 1969
Author
AU =
Lairy, Gabrielle-Catherine
Journal title
JO =
Problems in the Adjustment of the Visually Impaired Child.
Title
New Outlook Blind; V63 N2 P33-41 Feb 1969
Volume and Issue numbe
Article Translated And Adapted From One That Appeared In Les Annals D'Occulistique, May 1967.
Additional information about the article
IT =
Descriptors—subject terms which characterize content
Descriptors; exceptional child education; visually handicapped; adjustment (to environment); child development; partially sighted; perceptual motor learning; sensory deprivation; parent child relationship; special schools; motor development

The main sections of *Exceptional Child Education Abstracts* are:

1. References
2. Subject Index to References
3. Author Index to References
4. Abstracts
5. Subject Index to Abstracts
6. Topic Classification Index to Abstracts
7. Document Classification Index to Abstracts
8. Author Index to Abstracts

Reference Entry Section and Indexes

In Volume One, Number 2, *Exceptional Child Education Abstracts* introduced the Reference Section. This section contains entries of journal articles dealing with exceptional children. Included are a Subject Index and an Author Index to the Reference entries.

Education and Training of the Mentally Retarded
Education of the Visually Handicapped
Exceptional Children
Gifted Child Quarterly
Journal of Learning Disabilities
Journal of Rehabilitation of the Deaf
Journal of Special Education
Journal of Speech and Hearing Disorders
Journal of Speech and Hearing Research
Mental Retardation
New Outlook for the Blind
Rehabilitation Literature
Sight-Saving Review
Special Education
Special Education in Canada
TEACHING Exceptional Children
Training School Bulletin
Volta Review

The Abstracts

Abstracts are arranged in numerical order as they were entered on the computer file. There is no other arrangement or classification of abstracts. Therefore, it is necessary to consult the *Subject Index to Abstracts* to identify abstracts on particular topics. See the sample entry for a description of the elements of an abstract.

Permission has been granted *Exceptional Child Education Abstracts* to use author abstracts of articles published in the following copyrighted journals: *American Journal of Mental Deficiency, American Journal of Orthopsychiatry, Education and Training of the Mentally Retarded,* and *Exceptional Children.*

Subject Index to Abstracts

To identify documents dealing with particular subject content, consult the Subject Index. By matching abstract numbers entered under several index terms, it is possible to search for very specific information. For example, Abstracts 801 and 838 contain information on educable mentally handicapped, special classes, and academic achievement.

Subject indexes in *Exceptional Child Education Abstracts* will be cumulative within each volume. Issue Number 2 will index abstracts in Numbers 1 and 2, Number 3 will index 1, 2, and 3, etc. Therefore, when searching within a given volume, the user need use only the most recent index to search all published abstracts in that volume.

Sample Abstract Entry

Clearinghouse accession number — CH =

ABSTRACT 769 ← Abstract number used in Indexes

EC 002 463 ED 025 864 ← ERIC accession number. Use this number when ordering microfiche and hard copy

Publication date → Publ. Date Jun 68 44p. ← Number of pages. Use this figure to compute cost of microfiche and hard copy.

Author(s) — AU =

Hensley, Gene, Ed.; Buck, Dorothy P., Ed.

Title →

Cooperative Agreements between Special Education and Rehabilitation Services in the West. Selected Papers from a Conference on Cooperative Agreements (Las Vegas, Nevada, February, 1968).

PS =

Western Interstate Commission For Higher Education, Boulder, Colorado ← Institution(s)

United Cerebral Palsy Research And Education Foundation, Inc., New York; Rehabilitation Services Administration (DHEW), Washington, D. C.

EDRS mf, hc indicates document is available in microfiche and hard copy. For cost information, see p. iv.* →

EDRS mf,hc

CN =

VRA-546T66 ← Contract or grant number

Descriptors: exceptional child education; cooperative programs; vocational rehabilitation; vocational education; administration; mentally handicapped; state agencies; cooperative education; educational coordination; cooperative programs; state federal aid; administrative problems; communication problems; equalization aid; work study programs; handicapped; cost effectiveness

IT =

Descriptors—subject terms which characterize content →

Summary →

Five papers discuss cooperative work-study agreements between schools and vocational rehabilitation services in the western states. Areas discussed include the advantages of cooperative agreements, the forms and disadvantages of third party agreements, basic concepts of the programs, and an outline form to use when applying for matching funds; the relationship of special education, rehabilitation and cooperative plans, programs, and agreements; and California's past and present work study programs for the mentally retarded. Also reviewed are research demonstrating the economic feasibility of vocational training for the educable mentally retarded in the public schools and communication problems in work study programs. The conference summary considers the purposes, goals, essence of, and necessity for cooperative agreements. (MK) ← Abstractor's initials

SP =
Sponsoring Agency

DN =
Report No.

*NOTE: EDRS mf indicates microfiche reproduction only.

Section 5

ERROR RECOVERY PROCEDURE

5.1 COMMUNICATION FAILURE

The terminal can stop operating because of a communications line failure, or an equipment failure. In case of the former, a message will appear on the screen as follows:

COMMUNICATIONS LINE FAILURE – TRY AGAIN

In this case the user should wait 30 seconds (to be sure there is not a succession of failures) and reenter the command. If the blue light is not on, the user should depress MASTER CLEAR before reentering the command.

5.2 BLUE LIGHT ON KEYBOARD STAYS OUT

In most other cases of failure,the blue terminal ready light will remain off for an inordinate length of time (30 seconds). If this light remains off for over 30 seconds, the user should depress MASTER CLEAR (which restores the keyboard and the blue light) and then TRANS twice in quick succession. If normal operations are not restored within 1 minute, this sequence should be repeated again. If this still fails to restore operations,the user should summon aid either locally or from Lockheed. Telephone numbers in the Lockheed computer room are: 415/324-3311, Ext. 45001 (days) – 415/327-5344.

5.3 LOCAL TERMINAL TEST

A local terminal test can be conducted as follows:

1. Press MASTER CLEAR
2. Press CLEAR

3. Press RESET
4. Type in several characters or words
5. Press END
6. Press RESET
7. Press OUT

This sequence will cause the words or characters entered on the screen to type out on the console typewriter. This test should be conducted whenever the terminal is turned on or if terminal trouble is suspected.

5.4 TALKING ON THE DATA PHONE

Communication between terminal users and computer operators is possible using the data phone. Normally this should be done only by experienced personnel. First send a message to terminal 0 telling the computer operator to pick up the data phone (if there has been a failure of some type, this step is ignored). Next press the TALK button on the data phone and then pick up the receiver. Do NOT "flash" by depressing the receiver buttons, but just wait for the operator to come on the line.

5.5 INITIATING SERVICE

Turn on the CC 301 controller, the T.V., and the teletype (if available). Be sure the data phone has a dial tone by pressing talk and picking up the receiver. Return the receiver to its cradle. Conduct a Local Terminal Test as described in section 5.3.

APPENDIX D

DETAILED PROCEDURES

TABLE OF CONTENTS

	Example
Request Process Procedure	1
Request Process Form	2
Request Categories and Definitions	3
User Categories	4
User Category Notations for IMC/RMC's	5
Conditions of Exceptionality	6
Reference Collection	7

REQUEST PROCESS PROCEDURE

A *Request Process Form* (RPF) is stapled to the back of each piece of correspondence as it is opened. Date received is stamped on line two and the state or foreign country from which the request was sent is indicated on line three. The assignment of an accession number (line one), which is the final step in completing the RPF, will be discussed later. The remainder of the RPF (lines 4 through 14) is completed by a member of the Information Services staff.

Following is a line by line explanation of the RPF:

Line 4 – Communication Mode. Recorded by using one of the following designations: Letter *(L)*; Telephone *(T)*; Visitor *(V)*; Convention *(C)*.

Line 5 – User Category. See Examples 1 and 2.

Line 6 – Handicapping Condition. See Example 3.

Line 7 – General type of material requested. See Example 4.

Line 8 – Used for recording the various prepared packets, bibliographies, and other types of material which the Information Center distributes. Each document or packet of documents has been assigned a code number according to kind of material and production source. See Example 5.

The code numbers have been broken into five series:

Series 100	CEC Publications, brochures and pamphlets
Series 200-249	Reprints from CEC journals and newsletters
Series 250-299	Sample copies of journals and newsletters
Series 300-400	Publications from agencies other than CEC
Series 500-700	Exceptional Child Bibliography Series

Line 9 – Reserved for recording individual types of responses such as memos, personal letters, or computer searches. Type of response is indicated followed by a comma and a brief description of the content of the response. (The comma is essential for keypunching purposes.)

Line 10 – Reserved for recording computer search data. Listed in Section 1 are the descriptors searched. (Descriptors for searching via DIALOG or BIRS are selected from the *Thesaurus for Exceptional Child Education* and the *ERIC Thesaurus.*) The number of abstracts retrieved and the actual computer time spent in conducting the search are recorded in the sections labeled *Abstracts* and *Time.* See Example 6.

Line 11 – Used for recording names of persons or agencies to whom the patron was referred if further assistance was needed in answering his request.

Line 12 – Used for recording requests to be placed on *ERIC ExCerpt* mailing list. If a patron wishes to be placed on the permanent mailing list *(ERIC ExCerpt)*, the number *1* is entered on line 12. (For a description of *ERIC ExCerpt*, see Procedures, Part P.) Occasionally it may be necessary to maintain temporary mailing lists. If this is the case, an arbitrary number other than one selected and entered in this section. If a patron requests to be placed on more than one mailing list, the list numbers are recorded with a comma between each one.

Line 13 – Used for indicating the number of requests included in a given piece of correspondence or telephone request.

Line 14 – Used to record the date of request completion.

When a request is filled and the RPF completed, the whole package of material is given to a secretary who detaches the RPF and sets it aside for accessioning, i.e., consecutive numbering. A consecutive number is entered on line one of each RPF which is then given to a keypuncher. At the beginning of each new quarter (as outlined in the ERIC Quarterly Report Procedures, Part I), consecutive numbering starts over with number 1.

EXAMPLE 2

CEC Information Center

Information Processing Unit

Request Processing Form

*$DES

@Accession No. _____

@Date Received _____

@Source _____ if other than a state, circle one: Canada, Central America, South America, Asia, Africa, Europe, Australia, Territory

@Nature of contact _____

@User Category _____

@Handicaps _____

@Categories _____

@Prepared Responses _____

_____

_____

_____

@Individualized response: Circle one: LETTER - MEMO - REPRINT - SEARCH DUP - OTHER.

_____

@Terms searched _____

_____

@ABSTracts= _____ @TIME= _____

@Referral _____

_____

@Mailing list no. _____

@Volume of requests _____

@Finish date _____

Request Categories & Definitions

CAREERS - JOB OPPORTUNITIES...information asking about careers in dealing with exceptional children & where positions are available presently

CURRICULUM...responses for information on curriculum guides & guidelines and what should be included in different types of curricula

FACILITIES...requests for information on buildings, architecture and physical aspects of the environment

FILMS, AUDIOVISUAL...information inquiring as to availability and or location of films, slides, cassettes, transparencies, etc.

INCIDENCE & STATISTICAL DATA...concerned with any figures or information of a numeric nature dealing with exceptional children

LAWS - FUNDING - LEGISLATION...information dealing applications of laws, their establishment, use of federal, state or local laws & funds to set up programs

MATERIALS...use of instructional materials, sources and manufacturers of instructional materials

ORGANIZATIONS & AGENCIES...requests for information about types of agencies, purpose & function, where located & referrals to them

PROGRAMS...instructional programs utilizing techniques unique to that area, or simply typical applications of instruction

PUBLICATIONS...CEC type & related printed matter, reprints, where to locate a particular article, etc.

RESEARCH...information relating to any activity involving research with exceptional children

TECHNIQUES & METHODS...systems of instruction, teacher ideas and activities connected with instruction or materials

WORKSHOPS, INSTITUTES, CONFERENCES, CONVENTIONS...information relative to, concerned with, such as when & where and data coming from such gatherings

EXAMPLE 4

USER CATEGORIES

Practitioners: teachers of	PT	Counselors	C	Researchers	R
general special education	1	school	1	Spec. ed.	1
emotionally disturbed	2	agency	2	reg. ed.	2
educable mentally handicapped	3			medical/others	3
trainable mentally handicapped	4	Psychologists	P		
mentally handicapped	5	school	1	Medical practitioners	MP
neurologically impaired	6	clinic	2	doctors	1
physically handicapped	7			nurses	2
gifted	8	Social Workers	SW		
visually impaired	9	school	1	Parents & volunteers	PAR
speech impaired	10	clinic	2	parents	1
hearing impaired	11	agency	3	volunteers	2
disadvantaged	12				
learning disabled	13	Disseminationists	D	Students	ST
multiply handicapped	14	school library	1	elementary & jr. high	1
regular	15	college library	2	high school	2
Teacher aides	16	R&D Centers	3	undergrad. spec. ed.	3
		IMCs	4	undergrad. reg. ed.	4
Specialists	PS	others	5	grad. spec. ed.	5
reading	1			grad. reg. ed.	6
speech & hearing	2	Administrators	AD		
art	3	spec. ed. supers.	1	Unidentified	UN
music	4	spec. ed. principals & superintendents	2		
physical education	5	reg. ed. supers.	3		
physical therapy	6	reg. ed. principals & superintendents	4		
materials	7	consultants	5		
diagnostic/crisis/resources	8	ed. agencies	6		
occupational therapist	9	commercial agencies	7		
		gov. agencies (fed)	8		
College	PC	gov. agencies (st.)	9		
spec. ed. teacher/educator	1	gov. agencies (local)	10		
reg. ed. teacher/educator	2	professional org.	11		
other college staff	3				
research staff	4				

Request Processing System

User Category Notations for IMC/RMC's

The following abbreviations for the respective IMC/RMC's are to be used when a request is received or forwarded to us by a regional center. The category D-4 is to be noted in addition to the specific center.

APH	American Printing House for the Blind
BOS	Boston University, formerly NEIMC
USC	University of Southern California
COL	University of Northern Colorado, Rocky Mountain SEIMC
CEC	Council for Exceptional Children
ILL	Illinois State Department of Public Instruction
KAN	University of Kansas
UKY	University of Kentucky
MSU	Michigan State University
ALB	New York State Department - Albany
BUF	New York State Department - Buffalo
NYC	City University of New York (CUNY)
ORE	University of Oregon, Northwest Regional SEIMC
TEX	University of Texas
GWU	George Washington, Mid-Atlantic SEIMC
WIS	University of Wisconsin
NEB	Midwest Regional Media Center
TEN	Southern Regional Media Center
MAS	Northeast Regional Media Center
MEX	Southwest Regional Media Center

CONDITIONS OF EXCEPTIONALITY

ALL	All (or none, or general special education queries)
ED	Emotionally Disturbed
EMH	Educable Mentally Handicapped
TMH	Trainable Mentally Handicapped
MH	Mentally Handicapped
NI	Neurologically Impaired
PH	Physically Handicapped
G	Gifted
VI	Visually Impaired
SI	Speech Impaired
HI	Hearing Impaired
DIS	Disadvantaged
LD	Learning Disabled
MU	Multiply Handicapped

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